THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Tennessee Oil Men's Association, Hotel Peabody, Memphis, Nov. 25.

American Petroleum Institute, Technical Committee on Prevention of Pollution, Chicago, Nov. 30.

American Petroleum Institute, Stevens Hotel, Chicago, Dec. 3, 4 and 5.

Indiana Petroleum Association, Indianapolis, Dec. 5, 6.

Nebraska Independent Oil Men's Association, Paxton Hotel, Omaha, Neb., Dec. 11, 12, 13.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Feb. 19, 20, 21.

Michigan Oil Men's Association, Statler Hotel, Detroit, March 19, 20, 21.

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General

To Ship Gasoline by Pipe Line from Atlantic Coast to Ohio River 19
Southwestern Railroads Consider Blending in Transit Rates 20
Market Crisis Appears Past as California Crude Advances 21
Storage of Crude Economically Unsound 27
Review of Late Production News 28
California Crude Curtailment Restores Prices to Former Level 29
New Texas Division Head to Name Conservation Committee 30
Statistics to Show Effectiveness of Proration in Oklahoma 31
Clyde R. Minor Heads Louisiana and Arkansas Producers 32
Biggest Well in Oklahoma History in Oklahoma City Field 39
Winkler Wells Unable to Make Prorating Allowance 40
21 Drilling Wells and 9 Producing in Maricopa Flats District 44
Drilling Reports from Leading Fields 45, 46, 47, 48
Scouts Study Geology of Arbucles on First Field Trip 53
U. S. Crude Production and Imports Week Ending Nov. 7 97

Engineering

Automatically Controlled Station May Eliminate Pumper 50
Arc Welding Replaces Screwed Fittings in Much Refinery Equipment—*by C. M. Taylor* 61
Importance of Carbon Residue Test Shown in Bus Fuel Experiment—*by C. J. Livingstone and W. A. Gruse* 67

Merchandising

22 Greasing Jobs a Day in Ohio Town of 12,000 24
Anti-Freeze Compounds May Now Help Service Station Sales 26
Car Servicing in Club Atmosphere 77
Gasoline 55% of Sales at One-Stop Station 89

Markets

Mid-Continent, Unfavorable Weather Retards Markets 101
Gulf Coast Lubes Steady 102
Chicago, Local T. W. Cut Depresses Spot Market 103
Refinery Price Tables 104, 106, 107
California, Gasoline Drops Before Crude Goes Up 110
Pennsylvania, All Products Generally Steady 111
Eastern Domestic, Tank Car Price Cutting Appears in East 112
Gulf Coast, Two Export Inquiries Stimulate Market 112
Wax, Scale Lower; Refined Wax Higher 113
Complete Seaboard Prices 114
Tank Wagon Price Tables 116, 117
Crude Oil Prices, All Fields 119, 121

Departments

The Editor's Viewpoint 33
The Mid-Continent Skyline 35
Our Industry 42
On the Western Front 45
Along the Air Lanes 57
Letters to the Editor 58
New Patents 58
On The Lazy Bench 92
New Stations Building 93
Oil Company Finance 122, 124, 125, 126

H. BROOKS GUTELIUS, recently elected president of the Continental Supply Co., is one of those supply men who know the producing business through having been engaged in it. Mr. Gutelius, a native of Indiana, began his oil industry career with the National Supply Co. while a very young man, in an extremely minor position.

He came to Tulsa about 20 years ago and in 1916 he left the supply business to join the firm of B. B. and M. Jones, large scale Independent producers. Mr. Gutelius presently saw no reason why he shouldn't be in production on his own account, so in 1919, with Ralph Stauffer and the late E. Rogers Kemp, he formed the Plymouth Petroleum Co. The company has been successful throughout. Mr. Gutelius is its president and Mr. Stauffer is still active in it.

The supply business beckoned again in 1925 and Mr. Gutelius joined the Continental Supply as manager of the Oklahoma-Kansas district. Late in 1928 he was made vice-president and went to St. Louis. The elevation to the presidency followed, therefore, in less than a year.

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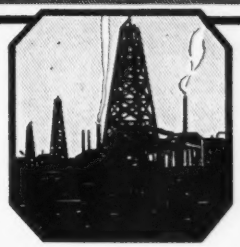

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Vol. 21 CLEVELAND, November 13 No. 46

To Ship Gasoline by Pipe Line From Atlantic Coast to Ohio River

CLEVELAND, Nov. 12

WITH a carrying charge far below railroad rates, gasoline from the Atlantic seaboard will be shipped into Pennsylvania and the Ohio river valley by pipe line and barge beginning in December. With this new development may come a new alignment of the competitive situation at inland points within reach of the new transportation system.

The Tuscarora Oil Co., Ltd., subsidiary of the Standard Oil Co. of New Jersey, is cleaning its old crude oil pipe line from Bayway, N. J., to the Ohio-Pennsylvania state line and will use it for the transportation of gasoline. The line will be capable of delivering 25,000 barrels of gasoline daily to various points in New Jersey and Pennsylvania.

Full importance of the new move probably will not be apparent for some months. On its face it seems likely that the Standard of New Jersey may be planning to develop its recently organized Standard Oil Co. of Pennsylvania as a distributor of gasoline in competition with the Atlantic Refining Co.

In Ohio the Refiners Oil Co. has been obtaining its gasoline from the Standard Oil Co. of Louisiana, another New Jersey subsidiary. Although a Standard official declined to comment on company plans, it may be presumed that part or all of the Refiners' supply may come from the Atlantic coast instead of the Gulf in view of lower carrying costs.

The Standard Oil Co. of Kentucky likewise might be considered as a customer for gasoline from the line.

It must be assumed that an outlet for the motor fuel is in prospect either through new distributing plants, jobbers or present customers of the company or its subsidiaries.

The Standard of Pennsylvania has been quite active in recent months in building up a distributing system in Pennsylvania. It has been buying some distributors and has been building new bulk and service stations where purchases could not be made advantageously. Recently the company is said to have purchased 50 trucks in one order which gives an indication of its activity in that state.

The company was organized early in July, 1928, with a capitalization of $1,000,000. Even before that time the Standard of New Jersey had begun to do business at at least two points in the state.

The Tuscarora line is 371 miles long, extending almost on an air line through central New Jersey and Pennsylvania to the Ohio state line near Pittsburgh. Fourteen pump stations are on the line in the two states from which gasoline may be distributed to consumers by tank truck, short tank car hauls or by barge to any economic distance.

Formerly the line received crude from the Illinois Pipe Line Co. at the Ohio state line near Negley which is in Columbiana County about 20 miles south of Youngstown, and transported it eastward to the Bayway refinery. Since the change was decided on an extension of 13 miles of 6-inch pipe has been laid from the old terminus to Midland, Pa., on the Ohio river in Beaver county about 36 miles from Pittsburgh. The main trunk line is of 8-inch pipe.

At Midland the line will terminate on the river. Here a bulk plant will be built from which the gasoline can be loaded into barges and distributed to consuming points along the Ohio from Pittsburgh west. As a matter of fact the gasoline can be delivered to Mississippi river points if necessary.

Tuscarora has filed a new tariff (I.C.C. No. 20) effective Dec. 12 which names rates from Bayway to each of the 14 pumping points. The tariff provides that the pipe line company will accept tenders of 50,000 barrels minimum for shipment. Three per cent is to be deducted from tenders to allow for shrinkage in transit.

Rates named in the tariff are in cents per barrel of 42 gallons as follows: to Hamilton, N. J., 15 cents; to Barto, Pa., 20 cents; Center Bridge, 17 cents; Cisna Run, 28 cents; East Freedom, 33 cents; Inglenook, 26 cents; Kepple, 40 cents; Midland, 45 cents; Portage, 34 cents; Ramona, 23 cents; Reed, 37 cents; Shirley, 30 cents; Temple, 22 cents; and Watts Mill, 44 cents. All points except Hamilton are in Pennsylvania.

Costs of barging gasoline on the Ohio river are not on a settled tariff basis. It is understood however that deliveries from Midland to various points on the Ohio will range from around 20 cents to possibly 40 cents per barrel.

As far as can be ascertained the Tuscarora tariff is the first pipe line gasoline tariff which has been filed by a common carrier pipe line. Records of the Interstate Commerce Commis-

sion were checked back to 1914 without finding any gasoline tariff.

Before the war the U. S. Pipe Line Co., a Pure Oil Co. organization, had a 4 and 5-inch kerosene pipe line from Titusville and Oil City to Marcus Hook, Pa. One was used to transport water white and the other standard white kerosene for a number of years.

During the war it was proposed at one time to use these lines to move gasoline to the coast. Tank cars were scarce and movement was slow due to the great congestion in freight movement for war purposes. The line was never used for that purpose, however, but was pressed into fuel oil transportation service instead. Later it was taken up.

In the natural gasoline industry pipe lines have been used for a number of years to transport that product from isolated plants in producing fields to loading racks and refineries. Some of these lines run up to 30 miles in length.

In California some refineries have pipe lines to tidewater for the delivery of gasoline and other refined oils from refinery to tank steamer. None of these lines approximates the 371 mile line of the Tuscarora.

Several years ago Mid-Continent refiners began considering the laying of a gasoline line from Oklahoma to some central point in Standard of Indiana territory. This was agitated because of the threat of increased railroad freight rates. Some investigation of the possibilities of a gasoline line, at least, were made and favorable reports submitted to executives by technical men.

To prepare the Tuscarora line for gasoline shipments in a reverse direction to the original crude movement, the company has constructed three new electrically driven pump stations. They are located at Bayway, N. J.; Cisna Run and East Freedom, Pa. Original steam driven stations also will be used in forwarding the gasoline through the line.

The Tuscarora line handled very little oil in 1928 according to its reports to the Interstate Commerce Commission. Total shipments through the line were 280,921 barrels. The company reported a net deficit of $120,945 that year.

In 1927 the line was moving large amounts of western oil. Total shipments that year were 10,069,341 barrels of oil which yielded a net income of $587,498. At that time the New Jersey company was shipping Seminole crude east on tender from the Carter Oil Co., its Oklahoma producing subsidiary, to supplement movement by pipe line to the Gulf and tank steamer from there.

Southwestern Railroads Consider Blending in Transit Rates

CLEVELAND, Nov. 12

A PROPOSAL to establish blending in transit rates on natural gasoline has been docketed by the Southwestern Freight Bureau having jurisdiction over regulations and rates in southwestern states. No date has been set as yet for a hearing on the proposal. It is expected that the matter will come up soon, however.

Under existing arrangements the refiner pays local freight rates upon natural gasoline from the point where it is produced to the refinery, and then pays another local rate, upon that portion of the motor fuel which is natural gasoline, from the refinery point to the final destination. In other words, the refiner pays a double freight rate on all natural gasoline used and this, of course, adds materially to the cost of natural gasoline.

The railroads have provided transit privileges on a great many commodities, which move from the point where they are produced to a manufacturer where they are made into marketable products. For example: iron steel is fabricated in transit; grain is cleaned, mixed and ground into flour and feed; vegetable oils are refined in transit, and numerous articles of commerce are stopped in transit for various purposes and moved on to final destination on the balance of the through rate.

It was on the theory that natural gasoline is a raw material, which in nearly all cases is mixed or blended with refinery products before it is an acceptable motor fuel and being a raw material was entitled to transit privileges, that the subject was docketed for consideration by the southwestern railroads.

With a refining or blending in transit privilege it will be possible, for example, to move a car of natural gasoline from north Texas to an Oklahoma refinery; there blend it with refinery products, and move thence to St. Louis on the through rate from north Texas to St. Louis. The rate from north Texas to St. Louis is 32½ cents per hundred pounds. Using Tulsa as a blending point the following comparison indicates the present charges on casinghead gasoline and what the charges would be on the basis of blending in transit arrangements on a shipment moving from north Texas to St. Louis:

The rate from north Texas to Tulsa is 29½ cents. From Tulsa to St. Louis 30 cents or a through charge of 59½ cents per hundred pounds. With a blending in transit privilege the charges would be assessed on the casinghead gasoline blended at Tulsa on the basis of the through rate, north Texas to St. Louis, of 32½ cents resulting in a saving of 27 cents per hundred pounds, or the difference between the present combination rate and the through rate.

Following is a statement of the docket which the carriers will consider:

"To provide for the blending of refining in transit privilege on Casinghead or Natural Gasoline, carloads, at refinery point directly intermediate between origin and final destination by authorized routes, on basis of through rates point of origin to refining point, refining point to destination, or point of origin to final destination, whichever is higher, from points in the Mid-Continent Field, to interstate points, also between points in the Mid-Continent Field, which includes Kansas, Missouri, Oklahoma, Louisiana and Texas.

"Shippers believe that with a blending or refining in transit privilege available at refinery points, to apply only on Natural Gasoline, that this commodity would be utilized to a greater extent by refineries in the manufacture of motor fuel, and that a considerable amount of the Gasoline, which is now going through pipe lines, would again move via rail."

New Plan for Gas Line To Omaha District

(By Telegraph)

TULSA, Nov. 12.—Thomas R. Weymouth, president of the Oklahoma Natural Gas Corp. will appear Nov. 13 before the utilities district directors of Omaha with the proposal of the Oklahoma Natural and the Western Natural Gas Co., an affiliated company, to supply natural gas to Omaha. The system in the Nebraska city is municipally owned. The plan is to deliver gas to the city gate with the city continuing in the business of distribution.

Mr. Weymouth will tell the directors that the companies he represents plan to lay a 20 and 24 inch pipe line from the Texas Panhandle and Oklahoma fields, a distance of about 500 miles. The estimated cost is $24,000,000.

Later on proposals will be made to utilities companies in Lincoln and Council Bluffs and other smaller centers in the area.

16 Burned in Ohio Bulk Plant Fire

CLEVELAND, Nov. 11.—A spark from an electric motor ignited gasoline vapors at the Youngstown, O., bulk plant of the Cities Service Oil Co. Nov. 9 and the resultant fire damaged 10 of the 13 vertical tanks at the plant. The physical loss is estimated at $25,000 to $30,000 although press reports Nov. 10 gave the loss at $200,000.

Sixteen men were burned when one 116,000-gallon vertical tank which was empty to the unloading line, exploded. Three or four of them were seriously hurt. The latter included E. Thomas, manager of the plant.

Manholes were blown from nine tanks when vapors in them expanded. These tanks also were dislodged from their foundations. Only three of the 13 tanks were filled and these three were only scorched.

J. C. Willing, head of the Cities Service Oil Co. organization in this territory, said only 15,000 to 16,000 gallons of gasoline were lost. The tank that exploded, burst near the bottom and a flash of fire swept over 11 firemen and five civilians.

The plant formerly was that of the Duncan Oil Co. which Cities Service bought last May 1.

Gilmore Winds Up Affairs Of A. O. M. A.

CLEVELAND, Nov. 9.—James A. Gilmore has resigned as secretary and manager of the American Oil Men's Association and the association has announced that it is winding up its affairs and will discontinue its activities.

The equipment exhibit which was planned to be held in Chicago during the American Petroleum Institute convention in December has also been cancelled because Mr. Gilmore had been told the A.P.I. did not favor an exhibit. Exhibitors' contracts and checks have been returned, Mr. Gilmore said.

Reasons given by Mr. Gilmore for his action were there was no room for two national organizations of petroleum marketers and that state associations were fulfilling the functions required by marketers. He said to continue with the A.O.M.A. would be racketeering and he would not accept money from members without giving them something definite and tangible for their outlay.

"I refuse to be classed as a racketeer, hence my decision to resign and the decision of the A.O.M.A. to discontinue," Mr. Gilmore explained. He has no new connection at present but believes his record of 23 years' experience in our industry will bring him something worthy of his consideration.

At the annual meeting of the A.O.M.A. last February, it was known that Mr. Gilmore told his directors there was no use continuing as a national trade association so long as there were two organizations soliciting memberships and support from Independent oil jobbers. He told them he was convinced no headway could be made by two organizations and proposed that a consolidation be attempted with the Independent Oil Men of America, with the view of eliminating one association to give the other an opportunity to justify its existence. The merger offer was declined.

Market Crisis Appears Past as California Crude Advances

By J. P. Mosher, Jr.
Manager, Platt's Oilgram

CLEVELAND, Nov. 12

A CRISIS was passed last week. A crisis that came none too soon to suit eastern and middle western oil companies. With the restoration of crude oil prices in the flush fields of California to higher schedules, visions of badly demoralized markets vanished and many a petroleum heart became lighter.

What seemed like ridiculously low prices for raw material in California were with the industry only long enough to give oil companies everywhere a pretty bad scare. They accomplished their purpose, the curtailment of production, without having the devastating effect on remote retail markets so many thought they would have.

Pacific Coast tank car markets probably were hit the hardest as a result of the slash in crude. It was generally felt there that the low prices for crude would be of short duration but at the same time, refined oil distributors disliked the idea of putting more gasoline into storage in the face of such cheap crude costs that would permit a large volume of goods to cut in under them.

The result was a rush to dump gasoline in out-of-state markets for almost whatever the buyer would pay. Prices for this class of shipments, according to reports, dropped fully 3 cents a gallon. The California market itself, the largest on the west coast and termed the "in-state" market, was pretty well under control, and although lower prices were made to get business in some instances, the drop proportionately was much smaller than for out-of-state shipments.

The inter-coastal market was affected only in a minor way by the California situation. Most of the inter-coastal business now is under contract. Some spot goods was reported to have sold last week, however, at 8.50 cents c.i.f. north Atlantic port. On the basis of current tanker rates, this would figure back approximately 6 cents f.o.b. California. This compares with quotations as low as 6.25 cents which had been made previous to the crude reduction.

Due largely to the excellent position of stocks of California gasoline on the east coast, well informed observers were of the opinion that a few cargoes would not be used to depress eastern retail markets.

Mid-Continent markets were quiet throughout last week. Gasoline prices in some districts, particularly north and west Texas, receded 0.125 to 0.25 cent. This failed to stimulate business, however. The reduction in wholesale and retail prices in Chicago and suburbs probably had a psychological effect on buyers in the Standard of Indiana territory. The opinion was freely expressed that the reduction, local to Chicago, was but the forerunner of a general change throughout the territory.

Mild weather throughout the middle west halted to some extent the burning oil market which has been active for about six weeks. With spot goods more freely offered, prices were off 0.125 to 0.375 cent.

A relatively tight market for filterable steam refined stock stood out as the main feature of western Pennsylvania markets.

Oil Man Heads Texas Commercial Body

HOUSTON, Nov. 7.—W. B. Hamilton, Independent oil operator of Wichita Falls, and formerly operating executive of the Texhoma Oil & Refining Co., before its sale to the Continental Oil Co., several years ago, was elected president of the West Texas Chamber of Commerce at its eleventh annual convention, which closed at El Paso, Oct. 26. Mr. Hamilton was formerly chairman of the oil and gas bureau of the W.T.C.C. organization. Abilene was named for the next annual convention in 1930.

The Best Series Yet~

Beginning Next Week~

NATIONAL PETROLEUM NEWS will present to its readers a series of 19 articles written for the man who is *responsible* for making a refinery or a natural gasoline plant show a *better profit*.

Colonel George A. Burrell, consulting chemical engineer of Pittsburgh, well known in the industry for his pioneer work in natural gas and in various phases of refining, is the author.

Colonel Burrell, in compiling this work, has combined his *scientific knowledge* with his years of practical experience in meeting *actual refinery* and *gasoline plant problems*.

NATIONAL PETROLEUM NEWS believes that this series will place in the hands of the plant operating man a collection of information the equal of which has never before been generally available.

The articles will be published every other week.

The author, in addition to setting forth his own knowledge and experience, refers the reader to many works by other investigators in the various fields of refinery technology.

THE first article, to appear in the **Nov. 20th** issue of NATIONAL PETROLEUM NEWS, carries a general discussion of the wide range of scientific problems that confront the refinery technologist and operating man in his effort to become better acquainted with the raw materials with which he works so that he can conduct his operations on a more efficient and profitable basis.

Colonel Burrell, in this opening article points out the need for research in the refining industry and indicates some of the directions he believes it should take.

* * * *

Article 2, entitled "Hydrocarbons in Petroleum," gives a brief discussion of the chemistry of petroleum as it applies to the various crudes and products.

* * * *

Article 3 gets right to the heart of refinery operation.

Entitled "Distillation," it introduces this basic subject which is pursued through **three following articles.** Subheads in this series on distillation are: The Still; Consecutive vs. Collective Distillation; The Column; Packed Columns; Plate Columns; Perforated Plate Columns; Bubble Cap and Plate Column; Character of Feed Introduced into the Column; Lagging the Column; Reflux at Top of Column; Place to Introduce Reflux; Temperature Control at Top and Bottom of Column; Pumping Reflux Back into the Column; Velocities; Number of Plates or Decks; Number of Fractions from One Column; Size of Plates and Number of Caps to a Plate; Downcomers; Equilibrium in a Commercial Column; Coke on the Plates and Corrosion; Uniformity of Operation of Fractionating Columns; Tower Efficiency. Separation of Various Petroleum Fractions in a Column.

* * * *

Article 6 takes up distillation with steam and under vacuum.

In this article is explained Dalton's law of partial pressures as it applies to distillation at reduced pressure.

Formulae are given for calculating vapor pressures and the use of steam and vacuum in distillation in various types of equipment is described.

* * * *

Article 7 begins a study of cracking that runs through four articles. Subheadings in the first article of the cracking discussion are: Nature of

On Practical Refining

Thermal Reactions; Paraffins; Naphthenes and Polynaphthenes; Aromatics; Olefin Hydrocarbons; Catalysts in Cracking Reactions.

* * * *

In Article 8, the subheadings are: Temperature; Time; Pressure; Refluxing; Relation of Time, Temperature and Pressure.

* * * *

Articles 9 and 10 get into the economics as well as the mechanics of cracking. The following subheadings give an idea of how the subject is handled in the two articles.

Type of Equipment; Polymerization and Condensation; Equilibrium in the Cracking Reactions; Free Energy; Coke; Residuum from Cracking Units; Operation of Cracking Units in the Same Territory; Charging Stocks; Yields; Vapor and Liquid Phase Processes; Composition of Cracked Gasoline; Controlling the Cracking Reaction.

* * * *

Other articles in the series cover:

Corrosion of Refinery Equipment; Treating Special Fractions of Cracked Distillates; The Engine Knock; Sulfur Compounds; The Refinery Power Plant; Radiant and Convection Heat; Heat Exchange; By-Products; Hydrogenation.

FOR the past four and a half years, Colonel Burrell has specialized in the study of cracking systems and he has made a close study of the details of cracking, treating, fractionating and other refinery operations. He holds the degree of Chemical Engineer from Ohio State University and that of Doctor of Science from Wesleyan University, Middletown, Conn.

He had charge for 10 years of gas and natural gasoline investigations of the U. S. Bureau of Mines. This included a study of analytical methods and the development of apparatus therefor, a study of explosibility of noxious character of mine gases and research work into commercial and experimental gases of all kinds.

He was the first to separate natural gas into its hydrocarbons by fractional distillation at low temperatures. He began his studies of natural gasoline twenty years ago.

During the war he had charge, as colonel in the regular army, of all the research work on poison gases, gas masks, smoke screens, and other materials of chemical warfare.

Following the war he had charge of construction of the refineries of the Island Refining Co., New York City, then spent a year in Europe on refinery problems, and in 1922 established a consulting office in Pittsburgh. His associate is R. P. Mase. Their concern is known as the Burrell-Mase Engineering Co. Absorbers, columns and other equipment of their own design are installed.

Gasoline plants have been built for the Manufacturers Light & Heat Co., Carnegie Natural Gas Co., Philadelphia Co., Pennzoil Co., Paragon Refining Co. and many others.

Colonel George A. Burrell, author of the new series of articles on refining to appear in NATIONAL PETROLEUM NEWS

22 Greasing Jobs a Day in Ohio Town of 12,000

This lubritorium of the Valley Oil Co., New Philadelphia, O. may have had the edge by being the first and, so far, only one there, but the motorists had to be educated to patronize it. Eight thousand cars were greased at this station within a year in this town of 12,000 population

By N. M. Mainpa
N. P. N. STAFF WRITER

THIS story isn't about anything particularly startling in the way of salesmanship, nor about new merchandising theories. It's just about a man who saw a small town's possibilities for greasing business, when others had either overlooked the town or dismissed it as too small a source for this kind of work.

When Kelly H. Walker, graduate mechanical engineer of Carnegie "Tech" and war-time member of the Aerial Observatory of Coast Artillery, found himself, like lots of other boys, mustered out of Uncle Sam's service with nothing particular to do, he heard of an opening with a large oil company in New York City. He applied there and, from the imposing structure that houses the headquarters of that company, he was sent to manage its distribution in New Philadelphia, Ohio.

That was seven or eight years ago. Now, as the Valley Oil Co., he is competing with the company he started with and practically "owns" automobile lubrication in New Philadelphia and adjacent towns. Approximately 90 per cent of large users of grease, oil and gasoline are his customers. He owns and operates 14 service stations in this territory, has one bulk plant and 875,000 gallons of gasoline storage.

When he determined to go into the oil business for himself, Mr. Walker saw the possibilities of a first-class lubritorium, and although there were those who scoffed at the idea of a greasing palace in a town of 12,000 inhabitants, he nevertheless built one.

The other day his men were greasing the 10,500th car since a year ago July when he first began keeping records. From July 1928 to July 1929, his lubritorium handled 8000 cars, on an average of 22 cars per day.

Through attractive pamphlets, letters to automobile club members and advertising in local papers, he first sold the idea of the benefits of regular lubrication. He told motorists of his lubritorium—the first of its kind in the town to specialize in greasing and oiling work. Car washing, battery charging, testing and adjusting brakes, simonizing, vacuum cleaning of car upholstery, and other services were to be had there through trained and competent service men, and new equipment.

The garages of the town which formerly had had a monopoly on this work, countered in the newspapers with a "have-your-car-serviced-at-a-home-garage" plea. But Mr. Walker was well entrenched as a "home product" by that time, being a member of the Rotary and Country clubs.

Not only did he promise the motor-

NAME		ADDRESS									
PHONE		CAR					MODEL				
DATE											
SPEEDOMETER READING											
ALEMITE											
MOTOR OIL											
TRANSMISSION											
DIFFERENTIAL											
SPRINGS											
WHEELS											
CLUTCH RELEASE BEARING											
UNIVERSAL											
BRAKES											

Form for lubrication record on customers' cars kept by the Valley Oil Co. When the card is full the customer has had between $35 and $40 worth of work done and is entitled to one free servicing

ist a thorough greasing job but he made the promise good.

"My customers themselves," Mr. Walker observed, "sell my greasing work to others. They tell their friends about my place, and they in turn tell their friends."

The men in the lubritorium are taught how to thoroughly grease a car. A man must lubricate every point on each car where grease is required and see that the grease comes out on both sides to assure a complete job. If he fails in this, he is in danger of losing his job, Mr. Walker said.

When a customer's job is completed, he is handed a printed slip which shows him exactly what was done to his car, how much time it took for certain jobs, and what price was charged for each item.

That slip indicates that these points were greased: shackles, steering gear, wheel bearings, universals, fan bearings, distributor and pump bearings. These points were oiled: generator, starter, hood hooks, door hinges, door latches and throttle links.

How many pounds of grease were used in the transmission and differential, and how many quarts of oil were put into the crankcase, are indicated. Other services on a thorough lubrication and cleaning job include the spraying of spring leaves, testing and adjusting brakes, battery charging, vacuuming of upholstery, polishing and "Permanizing" the car, and aligning the front wheels.

The record of oiling work gives the speedometer reading on a certain date and tells when the transmission, differential, springs, wheels, clutch release bearings, universal and brakes were last oiled. When this card is full, the customer has had between $35 to $40 worth of work done, which entitles him to a free lubricating service at the lubritorium. This represents about seven months' patronizing.

There are five pits in the lubritorium, all under cover. A finishing

LUBRITORIUM
OF
VALLEY OIL COMPANY No. 10500

NAME .....

Address .....

Make Car ..... Mileage .....

Date ..... New ..... Old ..... Order No. .....

			Amount	
1	Grease: SHACKLES, STEARING GEAR, WHEEL BEARINGS, UNIVERSALS, FAN BEARINGS, DISTRIBUTER, PUMP BEARINGS — Oil: GENERATOR, STARTER, HOOD HOOKS, DOOR HINGES, DOOR LATCHES, THROTTLE LINKS			
	CHECK TIRES AND FILL BATTERY			
2	Fill Transmission & Differential	Lbs.		
3	Drain Crankcase--Refill 100 per cent Penna.--FreedomVulcan--Mobiloil	Qts.		
4	Spray Spring Leaves			
5	Test and adjust Brakes	Hrs.		
6	Charge Battery	Rental		
7	Wash Car Vacuum Clean Upholstery			
8	Polish Car			
9	Simonize			
10	Align Front Wheels	Hrs.		
11	Miscellaneous	Hrs.		

Paid
Charge

Total .....

VALLEY OIL LUBRITORIUM is maintained for your convenience and solicits constructive suggestions at all times
We invite you to avail yourself of our call service for washing and lubricating.

Phone 23951

STANDARDIZED VALLEY OIL CO SERVICE

Job ticket used by the Valley Oil Co., New Philadelphia, O.

Night view of the first and only lubritorium at New Philadelphia, O. The service station is at the front, and a five-pit lubritorium at the back, off which is the tire and accessory room

room, where cars are "Permanized," and upholstery is cleaned, is off the lubritorium. Nine men are employed regularly at this station and usually two are available for one car. A greasing job takes about a half hour, and car washing about 15 minutes.

"Permanizing," Mr. Walker believes, lasts much longer than other finishes that he has tried. He makes a charge of $16 for Permanizing one car. One can of this finish nets him a profit of $30, he says.

A specialty that sells well at this station is dry cleaning naphtha. Women, especially, are good customers for this. It is sold for 40 cents per gallon, the customer furnishing his own container. As much as 50 gallons per day are sold around house cleaning time.

Another specialty that sells well around that time also is a green oil soap, suited for washing wood-work or removing heavier dirt. It is 50 cents a bar.

The first brake testing machine in the town was installed at this lubritorium. It is not a profitable investment, however, Mr. Walker says, as it is a long job for which there is not adequate charge. It takes about five hours to test and re-line brakes, for which he charges the customer $5. The brake lining costs $2.25 and is sold for $2.

Mr. Walker pays his men well in order to get the best there are for work in the lubritorium. The foreman was formerly in the garage business for some eight or ten years and is well versed in mechanical problems of motor cars.

His men are known about town and frequently make personal calls on the townsfolk for business. This personal effort results in much increased business, Mr. Walker says.

An effort to keep the stations as clean as possible is made through instructions to attendants as to what is to be done each morning. Tidying up pump islands, windows and the station generally, are a part of the day's job.

The company's color scheme is cream and black and a Spanish-Moorish mixture of architecture has been adopted lately for stations.

Anti-Freeze Compounds May Now Help Service Station Sales

CLEVELAND, Nov. 9

THIS is the season in which gasoline and oil business at service stations may be augmented with sales of anti-freeze compounds for car radiators.

With more than 25,000,000 passenger cars and trucks registered in the United States it is a fair estimate to say that 20,000,000 will require some anti-freeze compound during the winter, after making allowances for cars that will not be operated in cold weather and for the few which will be operated exclusively in climates where no anti-freeze compound is required.

Denatured alcohol probably is still the most popular anti-freeze agent in use but because it is necessary to test the radiator solution frequently to ascertain that sufficient alcohol is still in the solution to prevent freezing, some people have been using glycerin and ethylene glycol, a compound of the glycerin family. Because of the high boiling temperatures of the latter two compounds it is necessary to add only water during the winter if these compounds are used, providing that the connections in the car's cooling system are tight enough to prevent leakage.

The Glycerin Producers' Association is advertising that last winter 950,000 cars used glycerin. It is probable that fewer used ethylene glycol because it is a newer product in its application as an anti-freeze agent. That means that upwards of 18,000,000 cars and trucks will require denatured alcohol in quantities that will vary with the capacity of a car's cooling system and the climate in which the car is used.

Herewith is a chart of the quantities of anti-freeze agents required for various sized cooling systems and for various minimum temperatures which may be expected during the winter. Capacities of cooling systems of most of the automobiles in use today are obtainable from the "1929 Passenger Car Capacity Chart" published early this year by NATIONAL PETROLEUM NEWS.

CLEVELAND—Cities Service Oil Co. is asking its customers to report stations that have unclean rest rooms. Signs have been placed in rest rooms of several stations near Cleveland asking patrons to notify Cleveland headquarters if the rooms are not cleaned up. The signs give the number of the stations, and the Cleveland address of the company.

ANTI-FREEZE SOLUTION CHART

Capacities of Cooling Systems in Quarts—Get Capacity of Customer's Car from Passenger Car Chart

Cooling System Capacities ☞	8	9	10	11	12	13	14	15	16	17	18	20	22	24	26	28	30	32
At These Temperatures Use Quarts of 188 Proof Denatured Alcohol Specified Below																		
30° Above Zero	½	½	½	½	½	½	¾	¾	¾	¾	¾	1	1	1	1¼	1¼	1¼	1¼
20° Above Zero	1¾	2	2¼	2½	2½	2¾	3	3¼	3½	3¾	3¾	4¼	4¾	5¼	5½	6	6½	6¾
10° Above Zero	2½	2¾	3	3½	3¾	4	4¼	4½	5	5¼	5½	6	6¾	7¼	8	8½	9	9¾
Zero	3¼	3½	4	4¼	4¾	5	5½	5¾	6¼	6½	7	7¾	8½	9¼	10	10¾	11½	12¼
10° Below Zero	3½	4	4½	4¾	5¼	5¾	6¼	6½	7	7½	7¾	8¾	9½	10½	11¼	12¼	13	13¾
20° Below Zero	4	4½	5	5½	6	6½	7	7½	8	8½	9	10	11	12	13	14	15	16
30° Below Zero	4¾	5¼	6	6½	7¼	7¾	8¼	9	9½	10¼	10¾	12	13	14¼	15½	16¾	17¾	19
At These Temperatures Use Quarts of G. P. A. Glycerine Specified Below																		
10° Above Zero	4¼	4⅔	5¼	5⅔	6¼	6⅔	7¼	7¾	8¼	8¾	9¼	10¼	11⅓	12½	13¾	14½	15½	16⅔
Zero	5¼	5¾	6⅓	7	7⅔	8⅓	9	9⅔	10¼	11	11½	12¾	14	15¼	16½	17¾	19	20¼
10° Below Zero	6	6¾	7½	8⅓	9	9¾	10½	11⅓	12	12¾	13⅔	15¼	16⅔	18	19½	21	22⅔	24
20° Below Zero	6¾	7⅔	8½	9⅓	10¼	11	12	12¾	13⅔	14½	15⅓	17	18⅔	20½	22	24	25½	27⅓
30° Below Zero	Use Full Strength																	
At These Temperatures Use Quarts of Ethylene Glycol (Prestone) Specified Below (Supplied by National Carbon Co.)																		
10° Above Zero	2	..	4	..	4	..	4	..	4	..	6	6	6	6	8	8	8	8
Zero	4	..	4	..	4	..	6	..	6	..	6	8	8	8	10	10	10	10
10° Below Zero	4	..	4	..	6	..	6	..	6	..	8	8	10	10	10	12	12	12
20° Below Zero	4	..	6	..	6	..	6	..	8	..	8	10	10	12	12	12	14	14
30° Below Zero	4	..	6	..	6	..	8	..	8	..	10	10	12	12	14	14	16	16

Storage of Crude Economically Unsound

THE part improved refining processes have played in making it unnecessary for the industry to carry tremendous stocks above ground as a protection against future shortages is illustrated in the above chart, which was published in the October issue of The Lamp, official publication of the Standard Oil Co. (New Jersey).

"If the average gain of 21.92 per cent in the consumption and exports of gasoline which existed from 1916 to 1920 had continued in the same ratio until 1928, and if the refinery gasoline output—23.99 per cent of the crude run—had remained stationary, the refineries last year would have required 6,496,635 barrels of crude daily to provide for their gasoline markets," said The Lamp.

By the end of 1930, the chart shows, 9,683,383 barrels daily would have been needed.

"In other words, had there been no improvement in refinery and absorption processes, the producers probably could not have supplied enough crude in that year (1928) to meet requirements," the article goes on.

"However, consumption after 1920 gained more slowly and, by 1928, the increase was down to 11.44 per cent. In the eight years after 1920, however, the improvements in processes raised the refinery output of gasoline from the 23.99 per cent average of the 1916-20 period to 35.55 per cent.

"The larger straight run yield secured by the refiners and the increase in cracking operations reduced the daily crude requirements of the refineries from the theoretical 6,496,635 to 2,494,073 barrels actual.

"The possibilities which tomorrow's augmented yields from crudes for the future is indicated by the fact that, in August of the present year, the refinery output of gasoline was 44.40 per cent of the crude run."

The Lamp goes on to point out that the enormous growth of consumption in the past warranted the view that, in time, demand would overtake supply and stocks in storage would then be justified and would serve their true function as a reservoir.

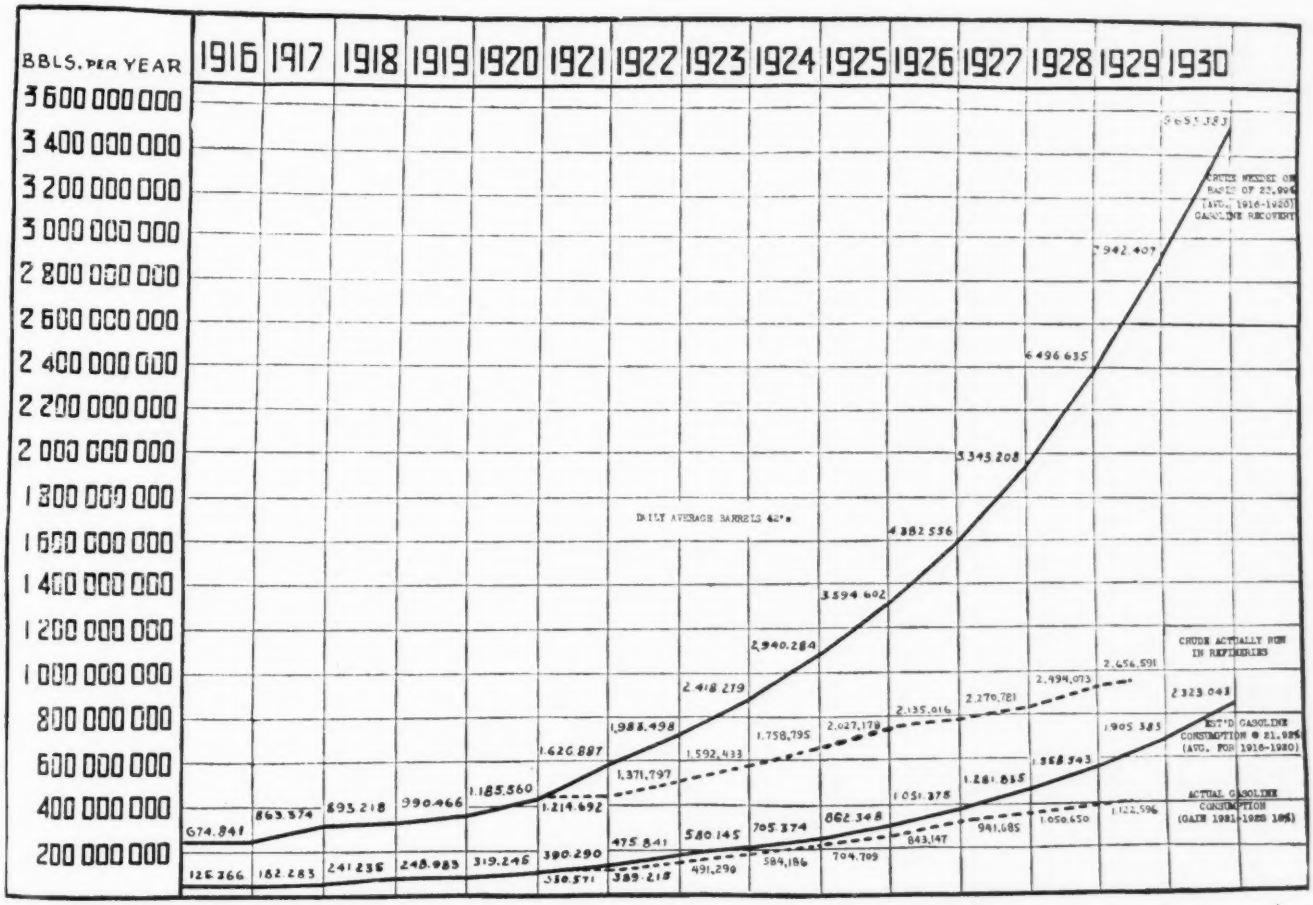
The present view, it states, holds that the future is no longer uncertain and that the industry can now with safety reduce the quantities in storage as opportunity offers.

It is also pointed out that a financial equilibrium can be attained in the industry by utilizing present stocks regardless of cost in time of shortage instead of stimulating greater production of crude by advances in the price schedule.

The article states that the Standard of New Jersey has been sufficiently convinced of the soundness of the present day view towards overproduction that it has reduced its own stocks from 90,000,000 barrels at the end of 1926 to 70,000,000 barrels at the middle of this year.

This reduction of 22 per cent in its stocks in three and a half years was not accomplished without losses, it is pointed out, but these were not believed sufficient to outweigh the resultant advantages.

"Since the factors of higher efficiency in refinery and the growth in the manufacture of absorption gasoline referred to have come into play, the aspect of the overproduction problem has entirely changed," The Lamp concludes.



The above chart shows the estimated gasoline consumption to 1930, reproduced from The Lamp, and the amount of crude necessary to supply it on the basis of 1916-20 crude runs and yields. The great difference between the dotted line showed crude after the run and the solid lines estimating the amount of crude needed, represents two factors not considered important until after 1920, namely, absorption gasoline and gasoline made by cracking

Review of Late Production News

OKLAHOMA brought in the largest oil well in the history of the state last week in the Oklahoma City field to add further to the necessity for proration if crude production is to be held somewhere near market requirements. The well produced around 1000 barrels in the one hour it was open.

Success of voluntary curtailment agreements in flush fields of California brought a return of crude prices in that state back to the level they occupied when it seemed impossible to curb production in that state.

Umpire Ray Collins reported satisfactory progress on curtailment of all flush fields of Oklahoma.

In Texas the Mid-Continent Oil & Gas Association plans a committee on conservation to watch conditions there.

U. S. Production dropped 188,250 barrels daily average in the week ended Nov. 9 according to estimates of the American Petroleum Institute. Average production for the week was 2,631.200 barrels per day, the lowest since last May.

Oklahoma-Kansas

THE biggest well ever completed in Oklahoma was turned into the tanks in the Oklahoma City pool. It was the Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. No. 1 Thomas Fuzzell, which made 1000 barrels in 15 minutes and was then shut in. Six hundred and forty barrels was tanked, and an estimated 400 barrels was lost on the ground. The well is not expected to hold up to such a rate, even for the full 24 hour period, about 50,000 barrels being estimated as its potential.

The first oil showing in western Oklahoma, the Oklahoma Panhandle excluded, was found in the Sinclair Oil & Gas Co. No. 1 Stewart, center of the east line of the NE SW of 33-27-16W. The sand, which so far has been correlated as a member of the Oswego series, was found at 5405-15. The showing did not develop commercial importance, and has been passed up. It is in Woods county.

The Ness county, Kansas wildcat of the Continental Oil Co. in 7-18S-25W was given a swabbing test during the week. It had a peak of but 250 barrels, which rapidly declined to around 110 barrels per day.

Texas, New Mexico, Louisiana

A THIRD deep test below 8000 feet has topped pay in the Big Lake field of Reagan county, West Texas. It is the Big Lake Oil Co.'s C-4 University, formerly known as

Current production in this country by pools is found on page 89.

No. 151, in Sec. 1, block 2, a half mile north of the same company's C-3 well. It is making 6,000,000 cubic feet of gas daily and spraying oil in an incompleted stage at 8220 feet.

The C-3 is drilling up wire line at 8380 feet, but production previously reported proved that part of the structure for gas and oil above the producing level of the Texon Oil & Land Co.'s B-1 discovery at 8523 feet, a year ago. The Texon well, now controlled by Continental Oil Co., made a new daily production mark of 2910 barrels of 57 A.P.I. gravity crude, Nov. 8.

The Texas Pipeline Co. is laying a three-mile line to the Texas Pacific Coal & Oil Co.'s Stateland well, in Lea county, New Mexico, and will begin running the oil immediately. The well is estimated good for 300 barrels daily.

California

CALIFORNIA daily average production was estimated to be approximately 705,000 barrels for week ending November 9. Present daily production figures for the state indicate that for week ending November 16 the average output will be about 660,000 barrels or nearly equal to the average production during 1928.

Operators at Seal Beach were the first to fall in line in pinching in their wells, with the result that the price of crude oil was restored there November 4. Other fields followed and now all prices have been restored to the level they occupied before the slashing cut announced by Standard to become effective October 21.

At the end of the present 90-day curtailment program it is thought by some that California's gas conservation law will be in effect and that action such as Standard's in reducing crude oil prices will in the future be unnecessary.

The spot light of interest was turned during the past week to operations in Maricopa Flats where one well was completed and several others are due for production tests. Other fields had little of interest to offer as many operators sat tight awaiting the return of the California oil industry to normal conditions.

Wyoming, Montana

THE new international oil field, lying partly in Montana and partly in Alberta, is receiving most of the attention of Montana operators at present. One new well is starting, two are building rigs, and one is standing making repairs, with bottom within a few hundred feet of the Sunburst. A Butte syndicate has started a test for gas near that city. Book interests of Detroit are backing a test for gas for a supply for Lewistown.

Prairie Oil & Gas Co. has started three wells on Porcupine dome, one of which is to be a deep test, and the other two will be drilled to the Madison limestone.

H. Leslie Parker of Los Angeles, has been granted an extension on his permits in the Midway-Geary dome anticline, Natrona county, and the Saltmount Oil Co. (Salt Creek Producers and Mountain States Producers) will drill a well on one structure soon to at least 7000 feet.

South Casper Creek was extended about 3 miles in producing territory last week by the completion of a 200-barrel well in the Tensleep sand by the Fargo Western Oil Co. Ohio Oil Co. has abandoned its joint test to the Sunburst sand in the Lance Creek field, a bad fishing job having prevented its completion.

Kinney-Coastal Oil Co. has managed to shut in its huge gasser on Pilot Butte structure and will drill another well immediately, using the gas for fuel.

Calif. Crude Curtailment Restores Prices to Former Level

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, Nov. 8

SATISFACTORY curtailment of crude oil output in three California fields resulted in Standard Oil Co. of California advancing prices this week to former levels. Prices were advanced at Seal Beach on Nov. 4, and at Santa Fe Springs and Signal Hill on Nov. 8.

Standard of California reduced prices in these fields on Oct. 21, from 40 cents to $1.05 a barrel. Curtailment efforts of the state gas conservation law had not produced results prior to the reduction.

The three major operators at Seal Beach—Standard, Continental Oil Co. and Associated Oil Co.—controlled practically all the oil producing acreage, and reduced output from 40,500 barrels on Nov. 1 to under 24,500 barrels on Nov. 4. A. H. Bell, petroleum engineer for Continental Oil Co., accomplished wonders as chairman of the Seal Beach conservation committee, in a relatively short time. Standard Oil announced on Nov. 5 that former prices would be paid for Seal Beach crude; the advance to be effective as of Nov. 4 and the clause in contracts specifying that price changes shall be effective 10 days after publication to be waived.

Although one or two operators at Santa Fe Springs and Signal Hill were not able to pinch their wells to the prescribed amount, due to mechanical difficulties, other operators reduced their daily yields. Umpires Paul Grimm and Neil Anderson certified that the daily average production was 150,000 barrels for Santa Fe Springs and 100,000 barrels for Signal Hill on Nov. 8. Standard Oil immediately restored the former price schedule effective Nov. 8 at 7 a.m.

Union Oil Co. restored the crude price at Ventura avenue to former schedule following Standard Oil's raise, although production has been reduced only 10 or 12 per cent. Estimated output for the field averaged about 58,000 barrels daily average for the week ending Nov. 9.

Daily average production in California in the week ending Nov. 16 is expected to be not more than 660,000 barrels. This would be slightly more than daily average for 1928.

On Nov. 16 prorating orders will be issued for Santa Fe Springs and Signal Hill fields. These orders will determine the potential output and will set the allowable production from each lease for the following two week period. Although the daily average productions will vary from day to day, the umpires hope to hold it down to, if not below, the allowable amounts.

On Nov. 6 and 7 the production at Santa Fe Springs had been reduced to 148,000 barrels, but on Nov. 8 new completions had raised this figure to nearly 160,000 barrels. The daily average for this field for week ending Nov. 9 was estimated to have been 163,000 barrels, as compared with an average of 255,000 for the week ended Nov. 2.

At Long Beach the daily average production had been reduced from 168,000 for week of Nov. 2 to 124,000 for week ending Nov. 9. Of this amount the Signal Hill portion contributed approximately 114,000 barrels.

During the 90-day period, for which the operators in the flush fields have agreed to curtail their production, state officials will endeavor to put into effect the California gas conservation law, so that in the future the menace of overproduction will not overshadow the California oil industry.

Although present curtailment programs do not prevent the blowing into the air of natural gas, a considerable quantity will remain in the ground as the result of heavy beans put on wells to reduce their output.

At a hearing to be held before the district court of appeals on a writ of prohibition issued in favor of Independents, James S. Bennett, legal counsel for the state director of natural resources, promised that things will move and that direct action will be taken to stop the wastage of natural gas in the Santa Fe Springs field.

Attorney-General U. S. Webb filed a suit Nov. 8 to enjoin operators at Signal Hill from wasting nearly 100 million cubic feet of natural gas daily. Superior Judge Craig issued an order for these operators to show cause on Nov. 21 before Superior Judge Hazlett why they should not be restrained from wasting this gas.

The hearing of the injunction suit against Santa Fe Springs operators was held also before Judge Hazlett until taken to the court of appeals. Many operators claim that if the appellate court had not removed the case from the superior court a preliminary injunction would have been issued and the crude price cut might have been avoided.

At Signal Hill the oil-to-gas ratio is much lower than at Santa Fe Springs averaging approximately 1000 cubic feet per barrel of oil, as compared with over 2500 cubic feet at the Springs. In the suit being brought by the state it is asked that the Signal Hill operators be restrained from taking more gas than is necessary from the sands, or more than the smallest amount required to raise the oil to the surface.

AS THE land overlying the oil sands at Signal Hill is held in 2060 parcels by 130 individuals and corporations, many of the lots being as small as 75 feet by 100 feet, some opposition is expected from landowners who resent the curtailment of their revenue. At the hearing to come up before the board of commissioners of the second oil and gas district—in which Ventura Avenue is located—it is indicated that the major operators will protest certain provisions in the order. They resent and protest against the right of the supervisor to dictate the amount of gas that may be taken from the specified zones, and against the ruling that gas cannot be delivered at Santa Barbara to the north but may be used to supply cities to the south, and against the decision that there shall be two oil-to-gas ratios.

At the same time that they are preparing to contest the right of the state to regulate their business, they are also working on an intercompany agreement whereby all gas wastage will be stopped. It is estimated that a cut in production of from 25 to 30 per cent will be necessary to eliminate this natural gas waste.

During the past week operators at Ventura Avenue put into effect a 10 per cent reduction in the field's yield and will make a similar reduction Nov. 11. Lease owners in this field are not all in accord with curtailment and any decrease in the daily output must meet with their approval if lease requirements are not to be violated.

However, California daily average production is for the first time this year down to the level of the average of 1928—a place where leaders in the oil industry made many efforts to bring it.

New Texas Division Head to Name Conservation Committee

By Paul Wagner
N. P. N. STAFF WRITER

SAN ANGELO, Nov. 8

EDWARD T. MOORE, president of the Simms Oil Co., Dallas, the newly elected head of the Texas division, Mid-Continent Oil & Gas Association, was instructed to appoint a conservation committee of ten in a resolution adopted at this year's meeting in San Angelo, Nov. 8.

It will be the duty of the committee, when appointed and functioning, to make recommendations to Texas operators regarding stabilization measures affecting the producing industry. The resolution was offered by J. Edgar Pew of Dallas, vice president and general manager of the Sun Oil Co.'s production activities, and a past president of the American Petroleum Institute.

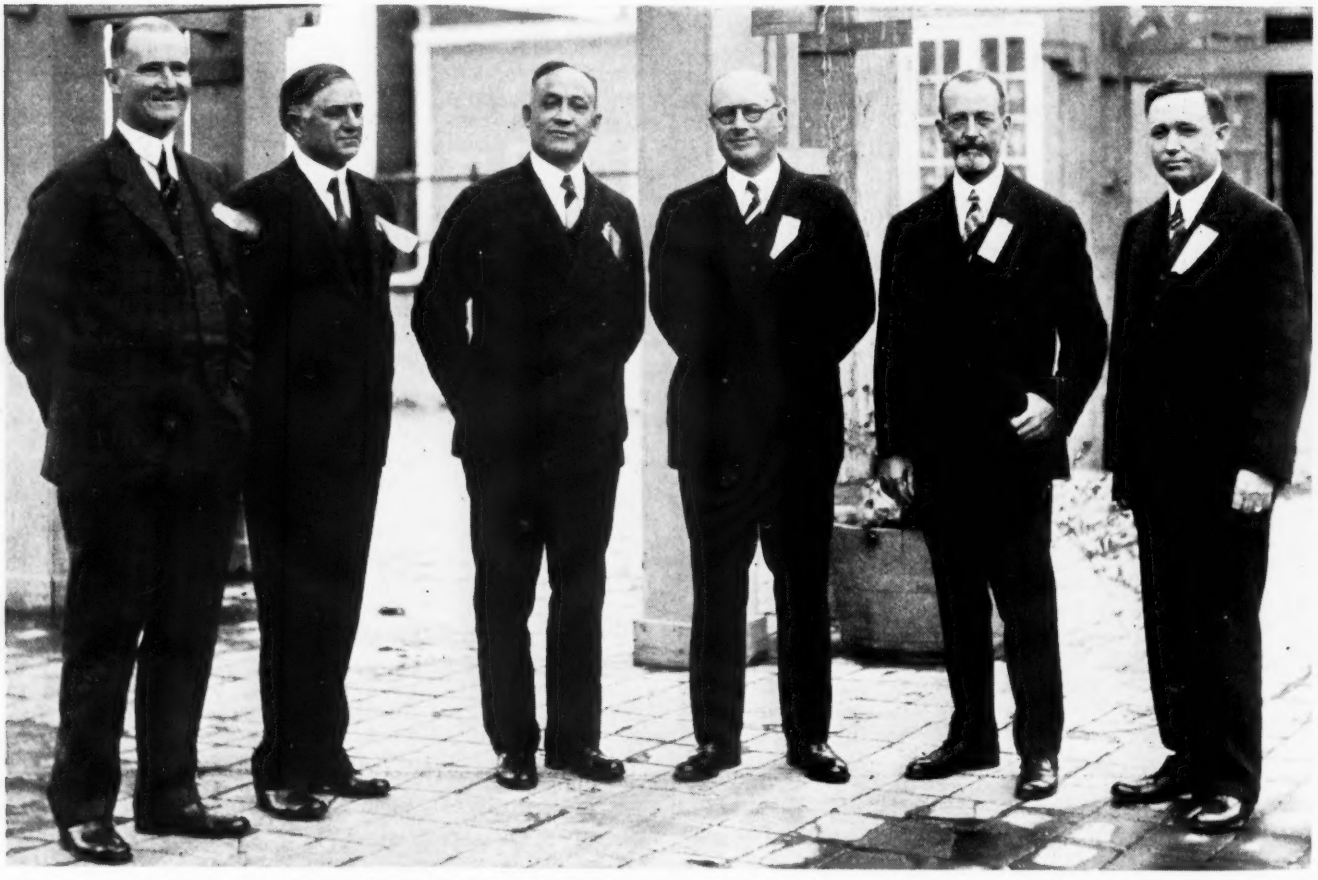
Keynote speeches made by President E. B. Reeser of the American Petroleum Institute and William N. Davis, president of the general Mid-Continent Oil & Gas Association, stressed the necessity for stabilization measures of lasting character taking the place of the temporary expedients now applied in various parts of the country.

The speakers, and Harry H. Smith of Tulsa, general secretary of the Mid-Continent association, referred to work under way looking toward formulation of a plan for presentation to the American Petroleum Institute meeting at Chicago, in December, for unified conservation work. The plan contemplates a model form for cooperative development agreements and the establishment of a code of operating practice which would set up approved methods for eliminating undesirable conditions such as "top leasing" and so forth.

Mr. Reeser referred to a practice of the University of Texas board of regents, in leasing lands under three-year term contracts, as diametrically opposed to sound and sensible business methods.

"The federal government," he said, "is doing everything it can to defer the development of oil on public lands, while the University of Texas is actually demanding greater activity in the development of oil which is not needed at this time.

"Under such a policy the opening of new pools could, and probably would, wreck the entire industry and cause great loss, not only to the producers but to the state of Texas and its great university. I believe that the regents have not been properly informed on this subject. It is the duty of the Texas division of this association, as well as the individual operators, to do everything possible to have this policy changed."



Left to right—John F. O'Donohoe, retiring president of the Texas division, Mid-Continent Oil & Gas Association; Edward T. Moore, new president of the Texas division; E. B. Reeser, president American Petroleum Institute; Roy B. Jones, president Western Petroleum Refiners Association; William N. Davis, president general Mid-Continent Oil & Gas Association; W. B. Hamilton, president, West Texas Chamber of Commerce

Mr. Reeser referred to 27 companies, in the first six months of 1929, as producing 73 per cent of the state's total oil recovery for the period, while 1200 other operators produced 27 per cent. He made the point that "it is obvious that it is of greater importance to the small producers than it is to the larger operators that the conservation measures now in effect, or proposed, be adopted."

President Davis of the general association, a vice president of the Phillips Petroleum Co., Bartlesville, declared that all relief measures that do not have "common ownership and unit development of the common reservoir" as their ultimate goal "are palliatives and not permanent cures."

He urged that the welfare of the producing industry as a whole is essential to the continued prosperity of each individual producing unit, adding. "I wish to urge that everyone turn attention seriously to the unitization program and lend fullest efforts and cooperation to its attainment."

The new Texas division president, Mr. Moore, succeeded John F. O'Donohoe, head of the Petroleum Producers Co., Wichita Falls. Mr. O'Donohoe retired after serving two terms. Mr. Moore is the third president to serve the Texas division, J. D. Collett of Fort Worth having occupied the position for many years before retiring in Mr. O'Donohoe's favor.

Vice presidents elected included Edgar J. Marston, president of the Texas Pacific Coal & Oil Co., Fort Worth, succeeding Robert W. Pack, Sun Oil Co., Beaumont; Levi Smith, president, Big Lake Oil Co., Texon, re-elected; Earl Calloway, Dixon Creek Oil Co., Amarillo, succeeding H. E. Bell, Houston; John R. Suman, director, Humble Oil & Refining Co., Houston, re-elected; E. H. Eddleman, American Refining Properties, Wichita Falls, succeeding W. A. Moncrief, Fort Worth; K. C. Baker, United North & South Developing Co., Luling, added to group.

W. M. Massie, Fort Worth banker, was re-elected treasurer and J. P. Laney of Dallas, secretary. Mr. Laney was prevented from attending the San Angelo meeting by a serious illness, from which he was reported recovering satisfactorily. W. H. Pullman of Mr. Laney's office was acting secretary of the meeting.

In addition to the newly elected officers, who serve ex-officio, the following members of the Texas division will represent the organization on the general Mid-Continent association board of directors:

J. D. Collett, O'Keefe & Collett, Forth Worth; R. A. Crawford, Dallas; Frank Cullinan, Republic Production Co., Dallas; W. H. Francis, Magnolia Petroleum Co., Dallas; Harry C. Hanszen, Houston; T. B. Hoffer, Hoffer Oil Corp., Fort Worth; Roy B. Jones, Panhandle Refining Co., Wichita Falls; J. L. McMahon, The Texas Co., Wichita Falls; Robert R. Penn, Penn Oil Co., Dallas; J. Edgar Pew, Sun Oil Co., Dallas; B. S. SoRelle, Pure Oil Co., Fort Worth; William B. Sutton, Vacuum Oil Co., Houston; Herbert O'Bannion, San Angelo; Harry Hines, Wichita Falls; John F. O'Donohoe, Wichita Falls.

New members of the Texas division board of directors are G. H. McIntyre, Continental Oil Co., Fort Worth; J. W. Hassell, Dallas; J. P. Gahan, Tidal Oil Co., Fort Worth; Ralph Kinsloe, Magnolia Petroleum Co., Dallas; M. W. Blair, Petroleum Producers Co., Wichita Falls; R. A. King, King Royalty Co.; M. B. Sweeney, Sun Oil Co., Dallas; Earl Calloway, Dixon Creek Oil Co., Amarillo; and Ed A. Landreth, Landreth Production Co., Fort Worth.

Because of removals to territory outside of the Texas division or for other reasons affecting representation, the foregoing directors took the place of ten individuals dropped from the old board. All others were re-elected.

Statistics to Show Effectiveness Of Proration in Oklahoma

TULSA, Nov. 9

WHILE figures on proration in Oklahoma have been delayed, due to the vast work necessary to get data on each lease, Umpire Ray M. Collins has brought up to Nov. 1 the statistics on what happened in the period Oct. 16-30 in all the fields outside of Oklahoma City which, during that period, was wide open.

The figures show that proration was as successful during the period mentioned as could be expected. Preliminary reports indicate that during November it will be even better handled. Production men are improving their technic on cutting back from the potential capacity of the wells and in general the plan is working much more smoothly.

Summaries, by fields, of the period —in some cases divided into two parts due to taking of new potentials during the period Oct. 16, when proration in all fields except Oklahoma City and East Earlsboro went into effect, are shown in the following tabulation. East Earlsboro was on a proration of 50 per cent when the general plan became effective Oct. 16.

Field	Period	Total potential	Total allowed	Total actual produced
East Earlsboro	Sept. 29-Oct. 26	1,417,508	716,091	719,852
East Earlsboro	Oct. 26-Nov. 2	305,837	157,736	153,846
East Little River	Oct. 26-23	188,328	150,668	154,423
East Little River	Oct. 23-30	172,753	138,208	143,124
Sasakwa	Oct. 16-23	82,465	66,003	69,633
Sasakwa	Oct. 23-27	52,716	42,180	44,154
Allen-Wilcox Sand	Oct. 16-23	39,900	31,920	31,795
Allen-Wilcox sand	Oct. 23-30	40,425	32,357	33,716
Marshall-Logan Co.	Oct. 16-30	291,247	211,185	217,077

Early in the week 50 per cent proration was extended in Kansas to the small Ritz pool, McPherson county and the Greenwich pool, Sedgwick county. While not imposing in total oil held back, they are significant of the tendency to withhold from the market every unnecessary barrel. Currently, in Oklahoma and Kansas, the situation is reported by observers to be well in balance, little, if any, oil going into storage. Some companies are storing a little, but others are withdrawing.

Preliminary estimates on the weekly average production in the two states showed a big drop for the week ended Nov. 9. In Oklahoma the reduction was 43,920 barrels of which 27,765 barrels were accounted for by the reduction in Oklahoma City. That pool went back on proration at the close of the previous week.

Estimates on the daily average for the past two weeks by pools that are under proration are as follows:

Pool	Week end Nov. 9	Week end Nov. 2
Searight	10,440	10,400
Seminole	25,910	27,230
East Seminole	5,020	5,160
Bowlegs	24,790	26,615
Earlsboro*	61,720	66,540
Little River**	68,865	70,110
Carr City	9,010	9,910
Maud	10,420	10,345
Mission	16,710	17,000
St. Louis	50,230	50,925
Pearson	900	920
Asher	5,160	5,260
Sasakwa	8,150	11,590
Oklahoma City	37,330	65,095
Allen	20,210	22,320
Logan county	16,370	15,820
	371,235	415,240
Total of Oklahoma	616,950	660,870

*Includes East Earlsboro, 26,640 barrels.
**Includes East Little River 22,605 barrels.

The following summary covers the older, more settled pools:

PRORATION REPORT
16 Days Ending 7 A. M., Nov. 1, 1929
SUMMARY BY POOLS

	Daily potential production	16 Days allowed production	16 days actual production
Allen (Shallow Sand)	20,421	261,376	264,180
Asher	6,616	84,656	85,998
Bowlegs	31,877	408,096	411,097
Carr City	11,601	148,496	141,244
Old Earlsboro	49,242	630,336	620,109
Little River	57,378	734,480	722,087
Mission	23,185	296,720	264,621
Maud	11,749	150,368	139,099
Pearson	1,107	14,160	14,524
Searight	12,565	160,848	165,160
Seminole	32,483	415,760	419,092
E. Seminole	8,140	104,192	87,234
St. Louis	67,060	858,400	779,559
Actual average production, 1 day			257,134
Allowed production, 1 day			266,739

Clyde R. Minor Heads Louisiana And Arkansas Producers

SHREVEPORT, Nov. 8

AT THE annual meeting of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association held in the directors' room of the local chamber of commerce today, Clyde R. Minor of Shreveport, was unanimously elected its president for the ensuing year. Mr. Minor is vice president of the Gulf Refining Co., and is recognized as one of the outstanding figures in the oil industry of the southwest.

Mr. Minor, who served as vice president of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association during the past year, succeeds M. J. Grogan, vice president of the Louisiana Oil Refining Corp., of Shreveport, who served as president two years. Mr. Grogan and the other retiring officers were given a vote of thanks for their services during the past year.

Besides Mr. Minor as president, other officers were unanimously elected for the ensuing year, as follows:

First Vice President, F. Ray McGrew, president of the Standard Pipe Line Co., Shreveport.

Vice President, J. R. Crawford, Independent operator, Shreveport.

Vice President, N. C. McGowan, vice president of the Palmer Corp., Shreveport.

Vice President, C. A. Richardson, of Lake Charles, La.

Treasurer, Ben Johnson, banker, of Shreveport (re-elected).

Secretary, Jos. B. Elam, Shreveport, (re-elected).

The new "official family" was nominated by a special committee composed of W. M. (Dick) Sebastian, Independent operator, chairman; Judge T. M. Milling, attorney for the Standard Oil Co. of Louisiana; Henry C. Walker Jr., attorney for the Louisiana Oil Refining Corp.; and J. S. Atkinson, attorney for the Gulf Refining Co.

Outside of the election of officers, there was virtually no business transacted, other than the adoption of the annual report of Secretary Joe B. Elam, who, among other things, directed attention to the effect of high severance taxation in Louisiana, in which the state severance tax averages around 6½ per cent compared with a maximum of 3 per cent in any other state where oil is produced.

"On Dec. 31, 1928, there were 3,820 oil wells in Louisiana. These produced an average of 14.8 barrels per day, having a total value of crude at the wells of $25,850,000, or average value per barrel of $1.18," Mr. Elam said.

"Unless and until a shortage of oil occurs in the areas where the product is moderately taxed, developmental drilling in Louisiana will be in a high degree desultory, except in the coastal region where geophysical and seismographic surveys have been and are being made under contracts executed a long time ago. Even here, however, there is little if any opportunity for the individual operator because the expenses incident to the location of domes, or potentially profitable areas, are too great to be risked by an individual having limited capital.

Clyde R. Minor

"The small so-called independent producer is the person being penalized here, since the well integrated, adequately financed corporations have only to shift the scene of operations to escape an excessive burden, and so impose upon the operator, who is so unfortunate as to own only Louisiana leases, the entire burden.

"If the wells in Louisiana were exceptionally large in volume, or if the oil produced was of unusual value, or if a high per cent of wells drilled produced oil, it might be possible to compete with operators having a lighter tax burden, but when it is revealed that the average per day well production in Louisiana is only 14.8 barrels, the average value per barrel is only $1.18, and an average of practically one-third of the wells drilled are dry, the grave situation which the small unintegrated Louisiana operator faces becomes immediately apparent.

"Fortunately Louisiana's low production level has not been hurtful to the industry as a whole, but, on the contrary, highly helpful. In Texas, in Oklahoma and in California high production curves have forced the industry, at great expense of time and money, to attempt to conserve the supply for future generations by confining the production to something like the demand. This has not been necessary in Louisiana, and so we have been saved the time and expense incident to any curtailment proceedings in addition to that formulated in Baton Rouge in May, 1928."

Nov. 8, was designated Oil and Gas Men's Day at the Louisiana State Fair at Shreveport, and after the annual meeting many attended the special program on the grounds. A feature of the program was a "safety first" contest by teams representing some of the oil companies, including the following entrants: Standard Oil Refinery at Baton Rouge, two teams; Louisiana Oil Refining Corp., two teams; Skelly Oil Co. of El Dorado, Ark., one team; Ohio Oil Co., two teams; Magnolia Petroleum Co., one team; and Crystal Oil Co., one team.

The teams competed in first aid methods to be rendered in case of accidents that might occur in oil fields and refineries, and gave demonstrations of what to do in case of burns, electric shock, asphyxiation, and how to care for open wounds, fractures, etc. The contest was in charge of the Bureau of Mines, which sent several experts here for the occasion and also sent its "first aid" educational car here where it has been parked several days for the public's information. The contest was followed by a safety banquet with Don J. Wallace of Tulsa, director of the safety section of the association as the main speaker. The Skelly Oil Co. team won first place in the contest. Louisiana Oil Refining Co. won second and The Ohio Oil Co. third.

WASHINGTON, Nov. 9.—Secretary of War Good has appointed Maj. Gen. Lytle Brown, chief of army engineers, as his representative on the technical committee of Federal Oil Conservation Board. He takes the place made vacant by the retirement of Maj. Gen. Edgar Jadwin, his predecessor as chief of army engineers.

The Editors' Viewpoint

National Petroleum News

Another Unfair Report on Shortages

THE oil companies of Cleveland, among which there are a good many memberships in the Cleveland Automobile Club, could well launch a stiff protest, through those memberships against the unfair and inaccurate methods used by the club in making a recent so-called investigation of short measuring at pumps in Cleveland gasoline stations.

The recent case is by no means the first one in which the automobile club has gone way out of the path of fair dealing to make a case in the newspapers against the gasoline stations, simply for the purpose of showing some activity on the part of the club for its members.

The American Automobile Association, at Washington, makes an equally unfair report spasmodically. The Cleveland Automobile Club has done it before and other local clubs as well. In no case that this publication ever investigated—and it has investigated many—has a fair and impartial investigation been made, nor for any other purpose than the newspaper publicity.

The recent occasion in Cleveland is simply a case in instance.

Cleveland Automobile Club furnished the investigators and the cars with the special tanks into which gasoline secured through test purchases was drawn, and those investigators are just as anxious to make a good showing in the way of shortages as any private detective is to make a case out of his investigation.

Most unfair of all, according to the city and county dealer, only the stations were investigated against which complaints of short measure have previously been received. Some of these complaints are the result of spite work, others just suspicion on the part of the motorist, and some of them were bona fide shortages, which the oil companies are just as anxious to eliminate as the auto club, perhaps more anxious. But the list of stations investigated, as taken from those complaints, in no sense can be taken as a fair cross section of all stations in the city. And yet, of this class of stations, only 39 per cent were found to be illegally short measuring.

But the figures on shortages at 39 stations, out of 3000 pumps in the county, are not impressive, so the report to the public assumes, most unfairly, that the same condition exists throughout the county, and then the figures begin to assume importance enough to look well in a newspaper headline. So we have this kind of a statement made in the so-called report:

"If all gas stations in Cuyahoga County continually gave the same kind of measure given by the 14 who were arrested (called the most serious violaters of the 87 stations) motorists would be cheated out of more than two and a half million dollars annually—to be exact, $2,620,000."

So intent are the makers of the report, and the editors of the Cleveland newspaper which played it up the most, for impressive totals that they make and overlook a common mathematical mistake that is ridiculous. Using this highly imaginative slide rule of actual results at 87 stations raised to the power of all pumps in the county, the report states that the shortage to motorists in the county for a year is $700,000, which means that "$20,000" extra per day is being paid by motorists for their gasoline.

This publication subscribes to the practice of checking the pump men at the stations for shortages. The oil companies do it themselves and the city and county sealers are at it off and on over the year. The automobile clubs, representing the interests of the motorists, are within their rights in making their own investigation. It should be a fair one and the facts concerning it fairly presented to the public, however. We do protest the unfair deductions in the report of the Cleveland club and the unfair way in which the alleged investigation was made.—V. B. G.

Why Talk "Premium" For Anti-Knock Fuels?

ISN'T the time about here when anti-knock motor fuels can stand on their own feet in the matter of pricing, and the word "premium" be eliminated in advertising and public discussion?

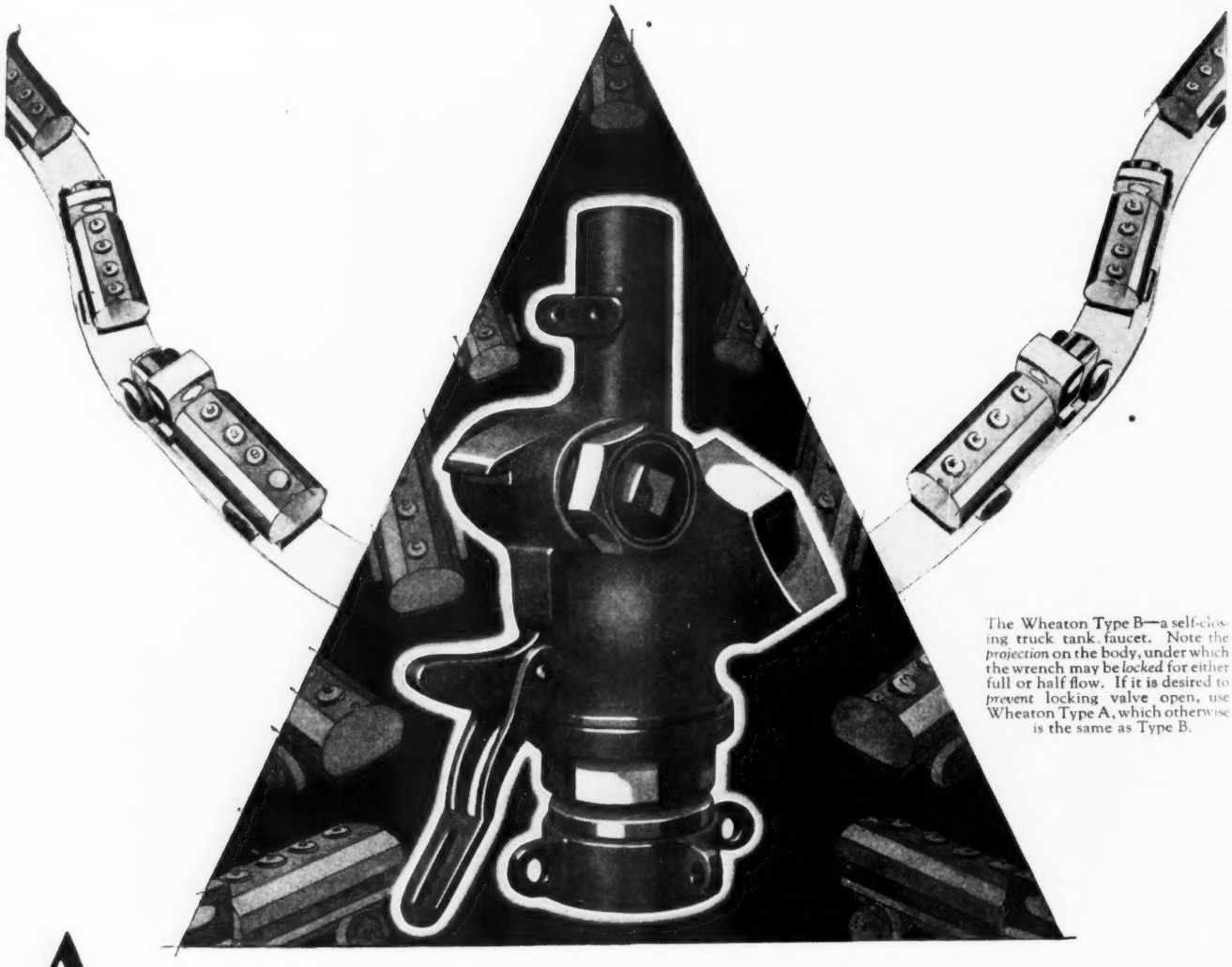
Anti-knock fuel now sells on the price of a standard grade of gasoline plus 1, 2, 3 or more cents per gallon premium. Why not drop the idea of a premium, placing both grades on their own feet, with sales emphasis on the better gasoline?

The consumer has accepted anti-knock fuel for today's automobile. In turn, the petroleum and the automobile industries have been creating, and supplying, the demand for transportation that has quick pick-up in traffic, speed on the open road, and anti-knock qualities.

The oil industry has been advertising and telling the consumer about the advantages of anti-knock gasoline as the fuel for the motor cars of today. Yet when it comes to telling about price the common grade of gasoline plus a few pennies premium is brought into the picture.

By thinking and talking of an independent price for anti-knock fuel, our industry would be going the whole way in placing a quality product as the foremost motor fuel. The more thought and emphasis placed on quality of product, the less inclination there would be to think of price in terms of comparison with other gasolines, and to indulge in price cutting.

The public is interested in the better product and the convenience involved as long as the price is fair. So why not divorce the pricing of the two grades of gasoline and forget the word premium?—E. L. B.



The Wheaton Type B—a self-closing truck tank faucet. Note the *projection* on the body, under which the wrench may be *locked* for either full or half flow. If it is desired to *prevent* locking valve open, use Wheaton Type A, which otherwise is the same as Type B.

America's Greatest Oil Companies are RIGHT!

By their purchases during the last decade and a half, America's greatest oil companies have shown a distinct preference for Wheaton Truck Tank Faucets. In their *continued* selection of Wheaton—after so long an experience—they must be RIGHT! * * * One of the most popular Wheaton Faucets with many of these companies is the Type B, pictured above, made of special analysis bronze—tempered, toughened and tested, and perfectly fitted and finished. * * * Send for a sample of Type B today. Give it your own test. If you are not entirely satisfied, you may return it for credit or refund.

A. W. WHEATON BRASS WORKS
Newark, New Jersey

Empire Brass Mfg. Co., Ltd., London, Ontario, Canadian Manufacturers and Distributors

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

PAUL RUEDEMANN, manager of the Tulsa office of Ralph E. Davis & Co., geologists and appraisal engineers, is on vacation. With Mrs. Ruedemann he is making an auto trip through southwest Texas.

* * *

J. R. Craun, veteran Osage county scout for the Carter Oil Co., has retired. He is 65 years old and for 10 years he has worked out of Pawhuska, during which time he has kept the Carter informed on some of the biggest developments in the Osage. His service with Standard Oil companies covers 35 years.

* * *

John L. Hill, one time superintendent of natural gasoline plants for the Carter Oil Co. and later vice-president of the Spartan Aircraft Corp., Tulsa, has joined the Continental Oil Co. as superintendent of gasoline plants. He succeeds John E. Jones, who recently resigned.

* * *

In addition to his duties as chief engineer of the Continental Oil Co., it appears that E. O. Bennett will blossom out as an airport manager. Motion to that effect has been approved by the city commissioners of Ponca City. The municipal field is immediately adjacent to the hangars of the Continental Oil Co.

* * *

The American Association of Petroleum Geologists has announced the subjects that will be covered in the forthcoming "Structure of Typical American Oil Fields," second volume. The first was published last year. Those who are familiar with that one know the manner of handling the symposia on the relation of oil accumulation to structure.

Forty-five authors, each familiar with the particular field he discusses, contribute to the second volume. The contents of Volume 2 are: Arkansas: Stephens; California: Santa Maria, Ventura Avenue, Elk Hills, Long Beach; Colorado: Florence, Northwestern; Illinois: Centralia, Sandoval, Martinsville; Kansas: Virgil, Madison, Eldorado; Louisiana: Caddo, Homer, Bellevue; Montana: Kevin-Sunburst; New York: Cattaraugus, Allegany and Steuben counties; Oklahoma: Hewitt, Cromwell, Seminole, Delaware Extension, Depew, Cushing; Pennsylvania: Bradford, Scenery Hill; Texas: West Columbia, Stephens county, Yates, Big Lake, Petrolia, Smith-Ellis; West Virginia: Griffithsville, Tanner Creek, Granny Creek; Wyoming: Elk Basin, Salt Creek, Lance Creek, Rock Creek, Grass Creek, Lost Soldier; Summary: Role of Structure in Oil Accumulation.

The volume will be ready in December.

* * *

New officers of three geological societies affiliated with the American Association of Petroleum Geologists have been announced. For Fort Worth, R. A. Liddle, Pure Oil Co., is president; A. R. Denison, Amerada Petroleum Corp., vice-president and C. E. Yager, Texas-Pacific Coal & Oil Co., secretary-treasurer. The Houston Geological Society elected George Sawtelle, Kirby Petroleum Co., president; J. Brian Eby, Shell Petroleum Corp., vice-president and John F. Weinzierl, consulting geologist, secretary-treasurer. The Shreveport society elected M. W. Grimm, Tidal Oil Co., president; C. M. Dorchester, Gulf Refining Co., vice-president and W. F. Chisholm, director of the minerals division, state department of conservation, was reelected secretary-treasurer.

* * *

Joe L. Risinger, safety director for Magnolia Petroleum Co., Beaumont, is chairman of Safety Week, Nov. 4-9, in the city of Beaumont. Various civic agencies and clubs joined in arranging the program, which includes addresses at luncheons, church services and outdoor rallies.

* * *

Historical Note, in The Independent Eagle (Independent Oil Men of America): "In the words of the song by that famous Scotch comedian, Sir Harry Lauder: 'It is always fair weather, when good fellows get together.'"

We had always thought John the Baptist wrote that song.

* * *

W. C. Whaley has been appointed assistant general superintendent of the Barnsdall Oil Co. of California. He has been superintendent of the Rosecrans district.

* * *

Edward T. Storey has been made sales manager of the Midwest Refining Co., Wyoming division, succeeding George H. Goohs. The latter was promoted to be manager of the division when Leslie A. Miller resigned. Mr. Miller built up the Aero Oil Co., selling it to the Midwest and remaining in charge until the new ownership was functioning smoothly. Mr. Storey is a native of Cheyenne, headquarters of the division, and was cashier of a Cheyenne bank when he became associated with the old Aero company.

* * *

Paul G. Weidner is now general superintendent of the gas department and chief engineer of the Midwest Refining Co., Casper headquarters. He succeeded to that position when Wallace R. Finney resigned to go with the Pan-American Oil & Transport Co. Mr. Weidner has been with the Midwest since 1922. A graduate of Cornell in engineering, he has had wide experience in manufacturing equipment, in mining. His first service in the oil industry was with the Gypsy Oil Co. in Oklahoma, in 1916, following which he joined the Standard Oil Co. of Indiana in natural gasoline work. A brother, C. R. Weidner, is chief engineer of the Prairie Pipe Line Co.

* * *

The announced subject of Sir Henri Deterding's address before the coming A. P. I. convention is "Common Sense in the Oil Business."

Those foreign ideas!

* * *

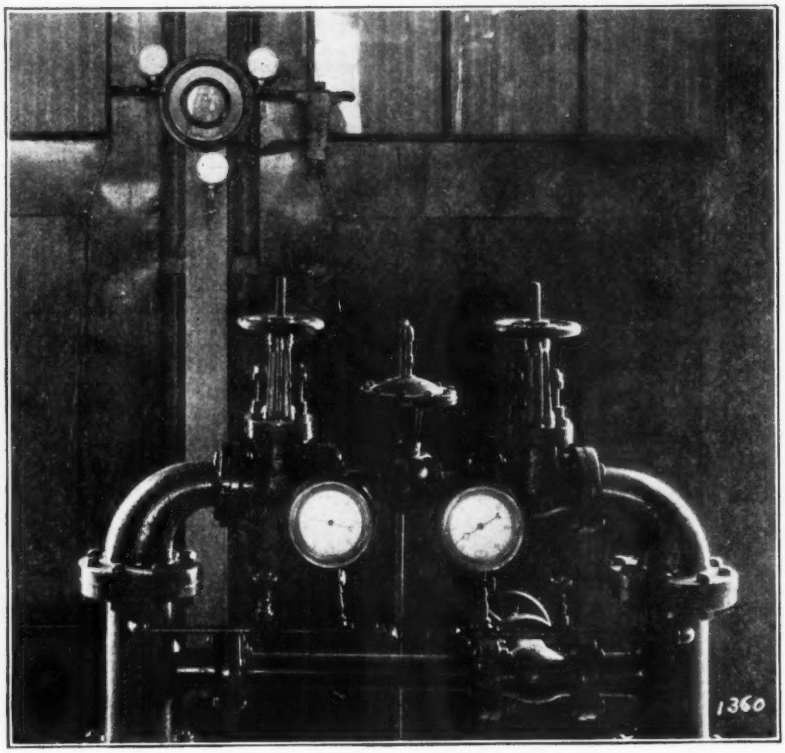
John H. Kane, vice-president of the Phillips Petroleum Co., was reelected as the Oklahoma member of the executive council of the American Bar Association in the annual meeting in Memphis.

* * *

Phillips Petroleum Co. will have a basket-ball team this fall in the Missouri Valley A. A. U. It will go through the season as the "Phillips 66" team, taking its name from the company's gasoline brand. Besides league games, the cagers will make several long trips. It will not be a surprise if it proves to be one of the strongest teams in the country, as all-star players who formerly were outstanding athletes in colleges of the southwest have been lined up for the coming season. J. S. Dewar, vice-president, and O. K. Wing, treasurer

Tycos Steam Boiler Gas Fuel Governor

(Pilot Operated)



Tycos Steam Boiler Gas Fuel Governor (Pilot Operated), maintaining constant steam header pressures on natural gasoline plants by controlling the gas fuel supply to a battery of eight boilers.

THIS installation insures constant steam pressures under varying load conditions by properly regulating the gas fuel supply to the burners. Full steam pressures are maintained under extreme operating conditions, thus insuring a high efficiency and consistent operation of the boiler plant.

Once adjusted to the desired steam pressures, the ***Tycos*** Regulator will maintain such pressures without adjustment or further attention from the engineer. Having a high degree of sensitivity its response to steam pressure changes is immediate. Its operation being essentially throttling, only the exact required amount of gas is admitted to the burner at all times.

The ***Tycos*** Steam Boiler Fuel Governor may be applied to a single boiler, or with a control valve and the gas header, to a battery of boilers. When applied to a battery, a boiler can be cut in or taken out without any variation in steam header pressure, due to the action of the regulator and compensating for such changes.

Write for additional information on this installation and others for the oil and gas industry.

Taylor Instrument Companies

ROCHESTER, N. Y., U. S. A.

CANADIAN PLANT
TYCOS BUILDING
TORONTO

MANUFACTURING DISTRIBUTORS
IN GREAT BRITAIN
SHORT & MASON, LTD., LONDON

Tycos Temperature Instruments

INDICATING - RECORDING - CONTROLLING

Associates now in the natural gasoline business are R. C. Sharp, pioneer natural gas man, who is a member of the executive committee of the Chestnut & Smith Corp. and T. K. Smith, who is the Smith of the firm name

Their only task is to keep The Texas Co. in the front ranks of every "play" of consequence in Oklahoma and Kansas. Left to right, E. R. Filley, division manager; J. E. Flanagan, head of the land department and J. W. Russell, land man at Wichita, Kans.

of the Phillips company assist a professional coach in the direction of the team.

* * *

Dr. F. F. Hintze, one-time chief geologist of the Producers & Refiners Corp. and in recent years a consultant in Denver, is now associate professor of geology in the University of Utah.

* * *

Panhandle Steel Products Corp., which is affiliated with the Panhandle Refining Co., Wichita Falls, has built a 16-foot speed boat, equipped with 90 horsepower engine, which will be used on that sizable body of water known as Lake Wichita. It is all-steel and will be used for the diversion of company men.

* * *

Died: Near Tulsa, in an automobile accident, Marvin B. Clover, 26 years old, son of S. C. Clover, oil producer, Tulsa.

* * *

Tough Luck Item: "Shortly after 1900 my father and I came to Sapulpa. We drove in a buckboard wagon to some farm land southwest of that city. The man who drove us turned several spades of earth while we watched and it was full of oil seepings. My father said it wouldn't be hugely successful for farming and we both opined that it wouldn't be good oil land for the reason that if it was destined to be the Standard Oil Co. could have gathered it in long before then."—Mayor James G. Newbegin, of Tacoma, Wash., in a Tulsa newspaper.

Ellick Botts, prominent ex-pumper of the Gray Horse district, says he recalls those early days vividly. He says that practically all of the pioneer drilling was done with spades and that some of the smaller pools were opened with ordinary fire shovels.

* * *

Earl D. Wallace, who has charge of the land department at Lexington, Ky., for the Petroleum Exploration, recently underwent an operation for appendicitis. For a time his condition was critical, but he is soon to return to duty.

Ralph W. Richards, chief geologist of the Creole Syndicate, in Venezuela, has been visiting his family in Washington, D. C.

* * *

William Conover is now statistician for the Independent Oil & Gas Co., Tulsa. He was formerly with the Continental Oil Co., Ponca City.

* * *

Gene Wright, recently purchasing agent for the Oil Well Improvements Co., is in charge of the Ponca City branch of the Oil Well Supply Co.

* * *

Scouts of the Seminole-Shawnee territory have a rather informal organization, with a chairman. To this post John Barrows has been elected for his second six-months' term.

* * *

Died: In Tulsa, William J. Flanagan, 40 years old, of pneumonia. Born and reared in Bradford, Pa., he came to Tulsa about the time of the Cushing boom and engaged in production. He was a brother of M. J. Flanagan, president of the Gaso Pump & Burner Co., Tulsa; J. P. Flanagan, independent oil producer and J. E. Flanagan, land department head for The Texas Co.'s Mid-Continent division; also of Mrs. T. J. Hanlon, the former Rosella Flanagan, one-time oil reporter and of Mrs. O. G. Hennage, Tulsa. Besides these, deceased is survived by his mother.

* * *

J. E. Sanders, of the Wentz Oil Corp. land department, Ponca City, has returned from a three-weeks stay in the Rio Grande valley of Texas.

* * *

C. K. Stillwagon, formerly of the engineering department of the Continental Oil Co. at Wichita Falls, is now with the Hughes Tool Co., Houston.

* * *

Married: In Winfield, Kans., Joe S. Clements, of the J. S. Cosden Oil Co., Big Spring, Tex., and Miss Lucille Calvert, of Ponca City.

Reports are current that the Missouri Pacific railway will build a line southwesterly, passing through Tulsa, to connection with the Kansas, Oklahoma & Gulf railway, south of Okmulgee. The new line would branch from the M. P.'s present line, Kansas City to Little Rock, at Oolagah (there really is such a town), Okla. Maybe that favorite dream of a through Pullman from Tulsa to Little Rock, for those who seek to travel to the south Arkansas fields, will yet be realized. As it is, one goes to Claremore, whiles away his time watching the boys play dominoes, then boards a train about midnight.

* * *

The Exchange National Bank, Tulsa, has acquired control of the Midland National Bank, Midland, Tex. Midland is one of the oil centers of west Texas.

* * *

Married: In Amarillo, Miss Margaret Burgess and Ernest G. Hall. Mr. Hall is sales manager of the Eureka Co. (oil field equipment) of Los Angeles, Calif.

* * *

Married: In Oklahoma City, Louis F. Algeo, Santa Barbara, Calif., and Miss Isabel Duffy, Oklahoma City. Mr. Algeo is an engineer for the Pacific Western Oil Co. and is the son of the late John F. Algeo, well known independent operator of years ago.

* * *

Ten Years Ago

(From National Petroleum News, Nov. 12, 1919)

Frederick S. Fales elected director and Howard E. Cole secretary of Standard Oil Co. of New York.

Dr. E. R. Lederer joins Atlantic Gulf Oil Corp.

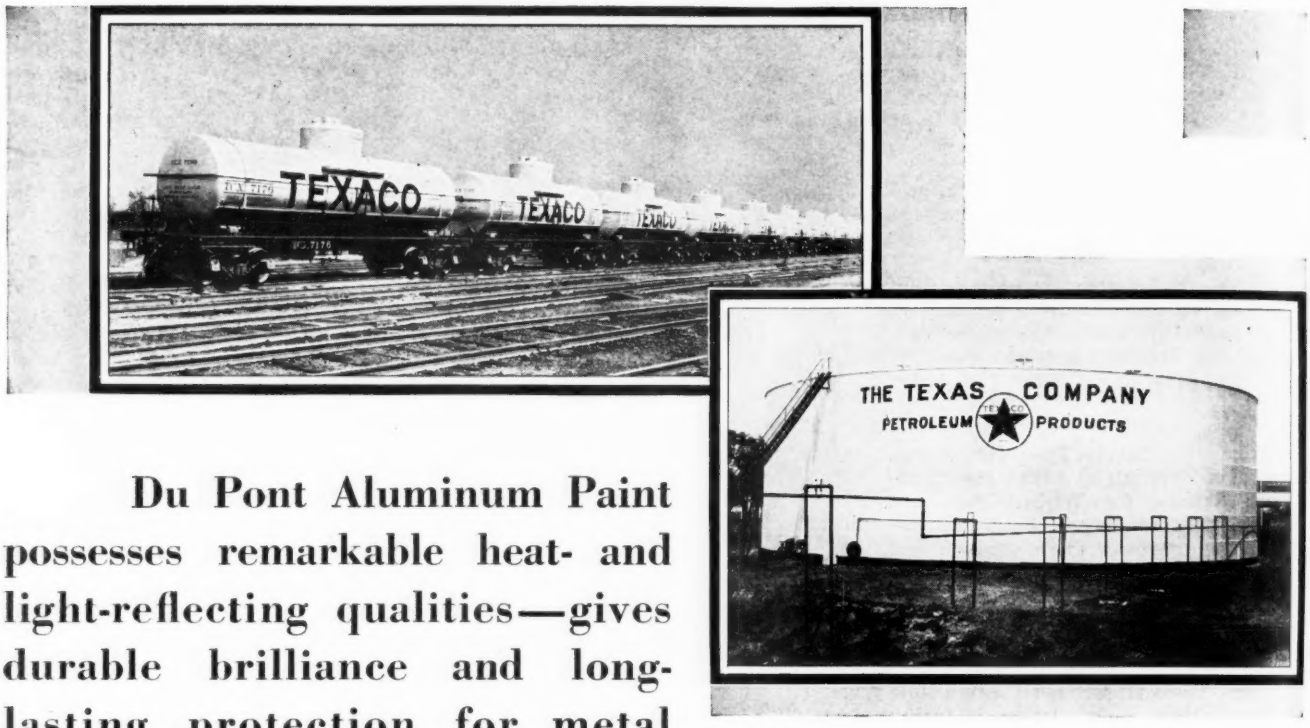
Earl Oliver resigns as head of Roxana Petroleum Corp. land department to become assistant to E. W. Marland.

Pennsylvania crude oil price advanced 25 cents to $4.50.

Humble Oil & Refining Co. increases capital from $8.200,000 to $25,000,000. Cosden & Co. increases from $25,000,000 to $35,000,000.

Minimize your "breather losses"– cut paint maintenance costs

· · *with this perfected paint for tanks*



Du Pont Aluminum Paint possesses remarkable heat- and light-reflecting qualities—gives durable brilliance and long-lasting protection for metal

THE relatively high value of aluminum paint in preventing volatile losses, combined with its durability, has led to widespread use of this type of paint for oil tanks and tank cars.

Today, du Pont offers the Petroleum Industry aluminum paint systems specifically designed to meet the adverse conditions of oil-field use.

Du Pont Aluminum Paint gives high heat- and light-reflecting brilliance that means maximum efficiency in the storage of oil, *throughout the life of the paint coat.*

Due to its unusual resistance to the action of sunlight, moisture and gases, du Pont Aluminum Paint has shown, in both field and laboratory test, a durability 20% to 50% greater than that of most white paints. It affords substantial economies in paint up-keep.

Easy to apply; very stable in leafing efficiency, brilliance and suspension and highly satisfactory in hiding the primary coat—du Pont Aluminum Paint has introduced new standards of paint efficiency and economy for tank cars and tank storage in the Petroleum Industry.

Full information on du Pont Aluminum Paint and other du Pont products designed especially for the Petroleum Industry will be sent on request. If your problem requires special study, we will be glad to send a du Pont technical representative to work with you.

DU PONT
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E. I. DU PONT DE NEMOURS & CO., *Incorporated*

Petroleum Sales Department

INDEPENDENCE SQUARE PHILADELPHIA, PA.

Chicago, Ill. **San Francisco, Cal.**

Biggest Well in Oklahoma History In Oklahoma City Field

By John Power
N. P. N. STAFF WRITER

TULSA, Nov. 9

ONE thousand barrels in 15 minutes. That's what the Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. No. 1 Thomas Fuzzell, Oklahoma City pool, made when it came in. Six hundred and forty barrels of it was tanked, and an estimated 400 barrels was lost on the ground.

Lack of adequate separator and tankage facilities made it necessary to shut the well in after 15 minutes of its record breaking flow, instead of giving it the full 24 hour test to which it is entitled by the operating agreement covering completions in the field at the present time.

The well is of importance only because of its size. It does not extend the proven area of the Siliceous lime, from which it is producing. Production men are almost unanimous in their opinion that the well would not maintain any such rate of flow, even for 24 hours, in spite of the fact that the Oklahoma City wells have a habit of fooling a lot of people in the way they hold up.

The general opinion is that it will settle to around half its indicated potential of some 96,000 barrels. But even at 50,000 barrels per day it holds undenied sway as the largest oil well ever completed in Oklahoma. And as a producer of high gravity crude, it makes a bid for world honors, as the quality of the oil produced by the huge gushers of West Texas, Spindle Top, California, and Old Mexico is far below that of the Oklahoma City field. The oil from the No. 1 Fuzzell will correct to about 39 A.P.I. gravity.

The week also brought forth the first oil showing officially recorded for western Oklahoma. The Oklahoma Panhandle is not included in this statement. The Sinclair Oil & Gas Co. No. 1 Stewart, center of the east line of the NE SW of 33-27N-16W, picked up a sand at 5405-15 which contained a good showing of oil. The showing was passed up as commercially unimportant, and latest reports from the field put the well at 5460, drilling ahead in shale.

Almost crowded out of the news by the huge well at Oklahoma City, the Woods county wildcat deserved a better fate. Aside from being the first oil showing in western Oklahoma, it will serve to put new life in the exploratory work contemplated for that region.

It is expected that the majority of this exploratory work will be of a geologic rather than a drilling nature. There are many large blocks held throughout western Oklahoma by major companies, and this oil showing may be considered sufficient evidence of the area's possibilities to warrant the continued paying of rentals, and some core drilling.

Numerous Independents have acquired leaseholds, and along with them, royalty at low prices, so it is possible that an increased amount of trading may be expected to result from the showing.

Of the wildcats in the Mid-Continent none is of greater current interest than the T. B. Slick-Tidal Oil Co. test in the center NW NW of 13-13N-1W, Oklahoma county. It is near the small town of Jones and is 18 miles northeast of Oklahoma City. Wilcox was topped at 6016 feet the formation being cored from 6017 to 6027 feet. There was no showing of oil, gas or water in this 11 feet of Wilcox. At the end of the week the operators said they would resume coring as soon as minor mechanical difficulties had been overcome.

The test is of especial interest because it is running quite high with respect to the nearest wells drilled to the Wilcox. Five miles south and seven west is the Mid-Kansas Oil & Gas Co.'s well, completed as a producer in a formation considerably higher than the Wilcox more than two months ago. This well went to the Wilcox, however, finding it lacking in oil, gas or water, just as the Slick-Tidal well is in the small part of the formation tested.

The Slick-Tidal well is 550 feet higher on the Viola lime than was the Mid-Kansas well. The Mid-Kansas well is in 19-12N-1W. Two townships farther west is the deep hole just north of Oklahoma City drilled by the Cromwell-Franklin Oil & Gas Co., in 15-12-3W. The Slick-Tidal well is 805 feet higher on the Wilcox than was the Cromwell-Franklin test, which was a failure.

Thus, on the basis of wells to the southwest, the Slick-Tidal test has aroused much interest. It would have been more encouraging if oil had been found in the top of the Wilcox, although it is not unusual to find the top of this formation barren.

A very small show at 5990 feet, 26 feet above the top of the Wilcox, was reported. That is, an expert taster said he could taste some petroleum in a rotary sample. As the pipe lines do not make connections on the strength of tastes, no significance is attached to this part of the well's history.

There are no Wilcox tests near enough east or south to draw any conclusions as to relief of structure in that direction. The test is on a block of about 3500 acres assembled by the Tidal with Slick sharing 50-50 in it for drilling the well.

There are some 26 wells drilling below 6000 feet in the Oklahoma City area. Their imminent completion does not mean that they will swell the field's production for some time. In addition to the many delays which occur during the drilling in at such depths, all save one of them comes under the 30 day shut down agreement, which means that they will be shut for 30 days after being given 24 hours open flow to clean themselves, and to provide a gage of their possibilities.

Among those wells which may be added to the list of completions in the near future is the Mid-Kansas Oil & Gas Co. No. 1 Browning, SW NW 18-11N-2W, the I.T.I.O.-Foster Pet. Corp. No. 2 Trosper, SW of 13-11N-3W, Coline Oil Co. No. 2 Olds, NE NW of 2W-11-3W, I.T.I.O. et al No. 2 Watters, NW NW NE of 25-11N-3W.

All of these wells are either drilling the plug or bailing mud on top of the expected pay, and are anticipated completions before long. The Mid-Kansas well, should it produce, will be the farthest northeast producer of the field to date. It is conceded a good chance to make a well, as it has been running fairly regular on the marker formations. None of the other wells, if successfully completed, can be regarded as extensions of territory which is not now considered proven.

A gage of the pool by wells follows. The "A" and "B" well plan of alternate producing wells is being used, which accounts for the reduced production from the field as a whole.

Production of Okla. City Field

Company	Well	Prod. Nov. 9		Prod. Nov.2
Mid-Kansas	1-Trosper	257 Bbls.		.....
Mid-Kansas	1-Fortson	2308 "		2328 Bbls.
Franklin	2-Lowery	5562 "		5500 "
Cromwell-Franklin	1-Trosper	3609 "		3127 "
Hall-Briscoe	1-Childs	7374 "		7378 "
Sinclair	1-Kinter	165 "	gasoline	.....
Shell	2-Petty	8687 "		.....
I.T.I.O.-Foster	2-A. Bodine	1947 "		1125 "
I.T.I.O.-Foster	1-S. Bodine	2937 "		2012 "
I.T.I.O.-Foster	2-S. Bodine	129 "		69 "
I.T.I.O.-Foster	1-Button	2599 "		3265 "
I.T.I.O.-Foster	1-Henning	124 "		.....
I.T.I.O.-Foster	1-Fee	1759 "		1377 "

Fairly feeble was the activity throughout the rest of the Mid-Continent. The East Little River pool was helped when the Mid-Continent Petroleum Corp. shot its No. 11 Smith with 40 quarts. The well, which is the thirty-eighth producer in the field nearly doubled its production after the shot, stepping up to 2580 barrels per day. The pool now is making an average of about 23,000 barrels per day.

Another well in the same pool which may add to the total is the Sinclair's No. 8 Smith, SW SE SE of 5-7-7, which has a show of oil in the top of the Wilcox at 4222-23. If it makes a well, it will be a step in the right direction, for the field so far has shown a tendency to develop south and southeast from the center of section 5-7-7.

The Seminole area's other extension pool, East Earlsboro, was extended a location to the north, but the size of the extending well was not large enough to indicate much more than that the heart of the pool will continue to lie south of the north line of section 18-9-6. The new well also belongs to the Mid-Continent Petroleum Corp. It is in the SE SE SW of 7-9-6, where it is swabbing 30 barrels an hour from the Wilcox at 4275-87.

Even quieter than Oklahoma was Kansas. The Ness county wildcat of the Continental Oil Co. which showed for a well last week was given a swabbing test, but as a well it failed to do much. Its peak was less than 250 barrels, which rapidly dropped to some 110 barrels. The latter figure was also slightly augmented by water, but it is the opinion of some that it is seapage water from behind the pipe, and not from the sand. Regardless of the source, it is a fact that the well declined rapidly, so that it is unlikely to start an immediate drilling campaign. The location is NE NE SE of 7-18S-25W.

It has, however, attracted the lease and royalty brokers as moths to a flame, and a rapid revival of interest in all of western Kansas is expected to result.

In Saline county, where the Dixie Oil Co. had a showing in the Viola lime, the Wilcox has been found to be present. The Dixie's test, in the NW NE of 10-16S-3W, found the Wilcox at 3490, but found it barren. Latest reports state that the well is being carried to the Siliceous lime, the present total depth being 3510.

* * *

Notes on the Week

A 20 million cubic feet gasser extended the Cromwell sand gas pool at Okfuskee a half mile to the south. Barnsdall Oil Co. test in the SE SE NW of 32-12-10 topped the sand at 3058-3078. The well has been shut in as a gas well.

* * *

Vacuum Oil Co. has completed the first producer it has drilled in Oklahoma. In the NW quarter of 11-26N-6E, Burbank area, it is making 120 barrels per day after a 120 quart shot in the sand at 2820-2874. It is the first completion in Burbank in two months. It is on a lease recently purchased by Vacuum from Lewis Production Co.

* * *

Central eastern Oklahoma has shown considerable gas producing possibilities. The latest of these gas wells is the Red Bank Oil Co. No. 1 Fee, in the SE SW NW of 23-9-24E. The sand at 5005-18 showed for better than five million cubic feet per day. Between 5018 and 5401 the gas increased to 15 million feet per day. About that time the rig caught fire and burned down, so that further developments will have to await the building of the new rig.

Winkler Wells Unable to Make Prorating Allowance

HOUSTON, Nov. 7

INABILITY of wells in the Winkler area of West Texas to make their prorating allotments is shown in an accompanying table comparing actual production for September with October potentials and maximum allowances.

Potentials for the area have been fixed arbitrarily for several months past and, apparently, no longer reflect exploitable production above the actual.

For months, part of the 40-acre prorating units in the field have been unable to produce allotted quantities of oil, but others were able to do so.

Prorating is being continued in this field for another six months, to May 5, 1930, under approval of the Railroad Commission of Texas, which enforces the state's conservation statutes.

Figures shown in the accompanying tabulation were submitted to the railroad commission by L. E. Barrows of The Texas Co., Fort Worth, chairman of the Winkler County Advisory Committee of operators.

Data included in the report also showed that 636 Winkler wells that have produced oil were drilled in the period from discovery to Oct. 15, 1929. Of that total, 565 wells were still producing. Six wells have never made water and 64 are now producing clean oil; the committee believes, because of prorating practice, plus back pressure maintenance.

As of Oct. 15, 132 wells in Winkler county had back pressure on casing ranging from 100 to 600 pounds. Part of them were pumping and part flowing. There were 272 wells in the territory making flowing production.

ALLOWED AND ACTUAL PRODUCTION IN WINKLER FIELD

	Daily potential production Oct. 16-31	Daily allowed production Oct. 16-31	Daily actual production month of Sept., 1929
Southern Crude Oil Purchasing Co., & Westbrook-Thompson Holding Corp.	71,347	50,259	43,688
Independent O. & G. Co.	2,826	3,051	1,851
Gulf Production Co.	25,378	12,692	10,358
Shell Petroleum Corp.	4,703	6,629	3,753
Shell & Texas Cos.	20,430	10,630	7,989
Humble Oil & Rfg. Co.	36,629	17,507	15,882
Atlantic Oil Producing Co. and Atlantic & Collett	10,978	7,187	5,311
Skelly Oil Co.	16,763	7,869	6,856
Continental Oil Co.	830	1,619	1,125
Amerada Petroleum Corp.	0	546	403
Prairie Oil & Gas Co.	14,906	6,754	5,836
The California Co.	630	739	750
Lion Oil & Rfg. Co.	27,860	12,088	10,949
Republic Production Co.	1,800	2,007	1,604
Texon Oil & Land Co.	4,397	2,440	2,037
Totals	239,477	142,017	118,393

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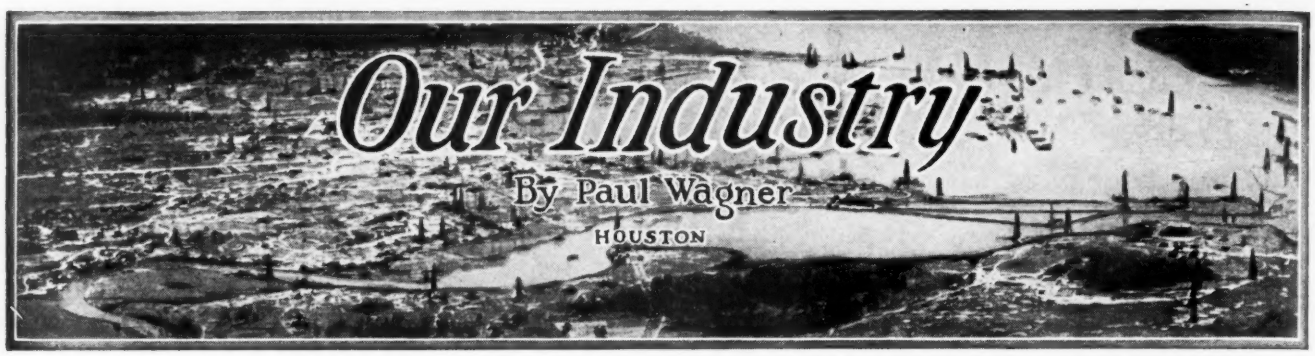


A SECOND edition of "Geologic Structures," ($14) revised and enlarged by its authors, Dr. Bailey Willis and his son, Robin Willis, has been issued by the McGraw-Hill Book Co. The authors explain in a foreword that, six years having elapsed since the book was originally published, "a more comprehensive scope is thought appropriate."

Chapters dealing with mechanical principles as applied to the analysis of structures have been rewritten. Treatment of the general subject of geologic thought has been materially amplified by an account of current theories of the origin of the earth and its dynamical development.

Robin Willis, who was a contributor to the original work, becomes co-author with his father in the revised and enlarged edition. Dr. Willis, professor emeritus of Leland Stanford University, Palo Alto, is recognized as perhaps the world's greatest authority of earthquakes. Robin Willis, recently a consulting geologist of Midland, Texas, has moved to Calgary to become associated with exploratory geology of the Norton Corp., Ltd., a Canadian corporation in which C. G. (Neil) Willis, a brother, is largely interested.

* * *

T. J. Donoghue, vice president of The Texas Co., at Houston, has accepted the chairmanship of the Houston Community Chest, Inc., organized several years ago for the consolidation of the city's charities. He succeeds William Strauss, resigned.

* * *

A Brenham, Texas, district office has been opened by Humble Oil & Refining Co., Houston, with John E. Meyer in charge of land and leasing work. He was recently transferred from Cisco, in the general Ranger territory. Geological work will be conducted by John W. Brice and W. C. Blackburn, his assistant. J. L. Adams is in charge of scouting activities.

* * *

Felix A. Nowakowski, chief accountant, Los Angeles sales district, The Texas Co. of California, was recently transferred to the Pacific Coast from the Oklahoma district. J. Harrod, chief accountant in Pacific Coast territory, was transferred from Houston.

* * *

Chester Sappington is now scouting the Crane-Upton county district of West Texas for the Empire Gas & Fuel Co., Cities Service subsidiary, making headquarters at Rankin. Before his transfer, Mr. Sappington was located at Ardmore, Okla.

* * *

'Gene Fosdick, formerly with the Midwest Exploration Co., in Brown and Coleman counties, central Texas, is now working out of the Houston geological offices of the Gulf Production Co. He is spending most of his time in East Texas territory.

* * *

Charles A. Stewart is now with the geological organization of the Shell Petroleum Corp., at San Antonio. He formerly was connected with the Dixie Oil Co., Inc., direct producing subsidiary of Standard Oil Co. of Indiana, in similar territory.

* * *

Jake Saulter, who previously scouted the San Antonio district for the Pure Oil Co., has been transferred to Tyler, for work in East Texas.

* * *

G. C. (Cleve) Phillips, formerly scout with the Continental Oil Co., at San Angelo, now represents the California Co., Rocky Mountain and Texas subsidiary of the Standard Oil Co. of California, in similar territory. He relieved W. E. (Earl) Whitcomb, who was transferred to the California Co.'s land department at Midland.

* * *

C. E. Patterson, of the Gulf Production Co.'s land department at Midland, Texas, has been transferred to Fort Stockton, western Pecos county.

* * *

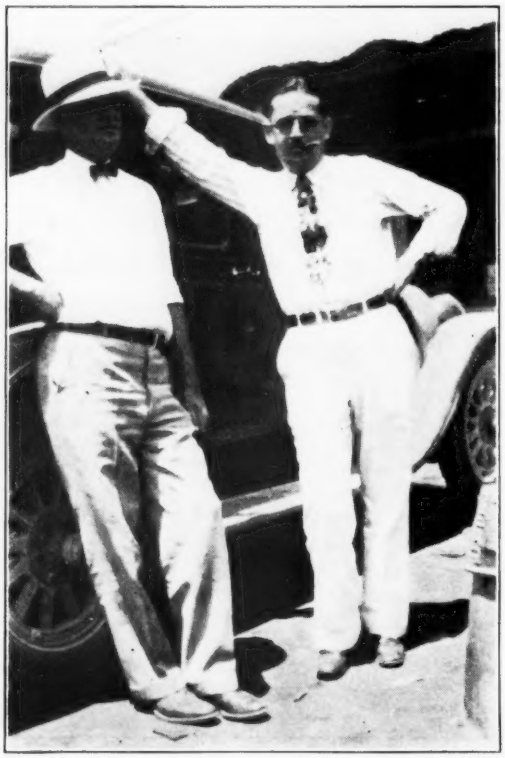
C. O. Maddox, San Antonio oil operator, has sold an operating half interest in 5000 acres of Wilson county wildcat leaseholds to the Rycade Oil Corp., which proposes testing this part of central South Texas. The acreage is described as being in the general trend southwest of Luling fault zone development in Caldwell and Gaudalupe counties.

* * *

W. F. Bowser is now scouting Texas territory west of the Pecos river for the Empire Gas & Fuel Co., making headquarters at Fort Stockton. He formerly was located at San Angelo.

* * *

An accompanying picture of two Continental Supply Co. executives was taken on a recent trip through West Texas territory in a car. The individual wearing a hat is 'Gene Ross, North Texas district manager, with Fort Worth headquarters. The other is Carl Meyer of St. Louis, general sales manager.



'Gene Ross and Carl Meyer

The Magnolia Petroleum Co.'s refinery band, from Beaumont, was designated as the official band of the state of Texas at the close of the state fair recently held in Dallas. It received $400 and a loving cup for winning the contest with a grade of 94, the highest among all first place winners in the 10 days of competition. Another loving cup was awarded the Magnolia band as state champion. The director, R. A. Dhossche, also received a grade of 94.

* * *

Fred S. Nesmith, operating head of the Continental Oil Co.'s fuller's earth plant at Riverside, Texas, has the responsibility for keeping all refineries of that organization supplied with filtering material. The plant was formerly operated as the Riverside Fuller's Earth Co., but after consolidation of the parent Marland Oil Co. of Delaware into the reorganized Continental Oil Co., the older organization was dissolved.

* * *

The American Geophysical Co., with headquarters at Houston, is composed of former employes of the Shell Petroleum Corp., including H. R. Thornburgh, formerly West Texas district chief of the Shell, working out of central division headquarters at Dallas; P. L. Davis, formerly a field manager at Dallas; and I. M. Griffin, Jr., of Dallas and Houston.

* * *

Harry Oliver, formerly an individual oil operator at Shreveport, now makes headquarters at San Antonio, to which place he recently moved.

* * *

George M. Bevier, Gulf Coastal division geologist of Pure Oil Co., of Houston, was identified with the Atlantic Oil Producing Co. organization before becoming attached to the Pure's staff several years ago. In addition to specializing on salt dome geology, Mr. Bevier has been active as a geophysicist, both with the Pure in his present capacity and previously with the Cortez-La Atlantica, subsidiary of the Atlantic Refining Co., in Mexico. He is a native of Brockville, Pa., and a graduate of the University of Pittsburgh, where he got his B.S. degree in 1919. He is a member of the American Association of Petroleum Geologists and of the Houston Geological Society.

George M. Bevier

C. B. (Danny) Craig

* * *

R. W. McIlvain, production vice president, and Theron Wasson, chief geologist, of the Pure Oil Co., Chicago, spent the latter part of October in Texas territory, visiting Fort Worth and Houston offices and also the new Van field, south of Grand Saline, in Van Zandt county, East Texas.

* * *

E. M. Peeples, scout for the Kirby Petroleum Co., Houston, has been transferred back to Fort Stockton, in the West-Texas Permian salt basin, from his recent headquarters at Roswell, New Mexico.

* * *

Frank H. Murray, formerly in the pipeline organization of the Continental Oil Co., in the Greater Wichita Falls district, is now connected with the Atlas Supply Co., in the Texas Panhandle.

* * *

Henry C. England, field superintendent of the Sun Oil Co., in its Gay Hill development of northern Washington county, South Texas, makes his headquarters at Brenham. Before his transfer to the Brenham district, Mr. England had charge of field work for his company in the Mexia-Powell fault zone area of East Texas.

C. B. (Danny) Craig, who is known from coast to coast in the equipment industry, to say nothing of his foreign activities, occupies the position of vice president and export manager of the Cooper-Bessemer Corp. He makes his home at Grove City, Pennsylvania, when he finds time away from business to stay there. Mr. Craig recently returned to Grove City from the Pacific Coast, motoring his way past Tulsa, where he stopped over for the Exposition.

* * *

"Sid" Roberts, of the Transcontinental Petroleum Co.'s geological department in Mexico, has returned to Tampico headquarters after a vacation spent in California.

* * *

Beverly B. Woolwine, cashier of the Huasteca Petroleum Co., at Tampico, returned to headquarters early in November after a vacation trip to California. He was accompanied by Mrs. Woolwine.

* * *

T. F. Newman is now subsurface geologist in the San Angelo office of the Skelly Oil Co., in West Texas, replacing L. A. Holmes, who was transferred to the core drill division in Kansas.

* * *

Sam H. Harper, of the Pure Oil Co.'s Fort Worth organization, has been transferred to Houston, where he will have charge of Gulf Coastal district purchases in the producing organization. E. E. Edwards replaced him at Fort Worth. R. L. Fulweiler, formerly assistant to the chief engineer at Fort Worth, also has been transferred to Houston. Bud Hennington, formerly superintendent at El Dorado, in the Arkansas producing department, is now Gulf Coastal field superintendent.

H. C. England

21 Wells Drilling and 9 Producing In Maricopa Flats District

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, Nov. 8

DEVELOPMENT and production in California seems headed down the path of orderly progress now that overproduction is a thing of the past—at least for ninety days. Even though one or two operators continue to express their fears that curtailment will seriously affect the ultimate recovery from the wells, the majority prefer to face this disaster rather than produce crude and receive fuel oil prices for it.

Comparison of production figures in the flush fields of California for weeks ending Oct. 19 and Nov. 9 are reminiscent of quotations in the stock market over a similar period. Once operators saw that they would have to curtail their production before the price of crude would be returned to its former schedule, they made a strenuous effort to pinch-back the daily output.

So effective was the move that a reduction of nearly 150,000 barrels was made in the state's total production. Averaged over the week the figures for the production from various fields were a trifle in excess of the actual output at the end of the week.

At Santa Fe Springs, where Umpire Paul Grimm certified on November 8 that production had been reduced to below 150,000 barrels daily, all operators were reported to be giving their full cooperation.

Production by zones for this field was estimated to have been as follows, comparing week ending October 30 and November 5:

	Production		No. Wells		Average per well	
Zone	Oct. 30	Nov. 5	Oct. 30	Nov. 5	Oct. 30	Nov. 5
Nordstrom	14,557	8,790	21	20	693	440
Buckbee	19,175	10,350	37	33	515	314
O'Connell	106,740	66,619	98	99	1089	673
Clarke	99,470	65,310	60	56	1656	1166
Upper zones	29,539	18,560	238	230	124	90

There are approximately 220 active drilling wells at Santa Fe Springs including 19 idle wells. Of the drillers 131 are still above the 7000 foot level and 71 are drilling ahead into the O'Connell or Clarke sands.

In the deep sands Union Oil Co. produced 25,500 barrels daily from 26 wells and General Petroleum was second with 22,830 barrels from 63 wells. Union made five locations and Standard three.

It is the general opinion of major operators that drilling operations will not be restricted as a result of the curtailment of crude oil production but that it will act rather as a stimulant to wildcatting operations now in progress in various sections of the state.

In substantiation of this theory Standard Oil Co. recently spudded-in two wildcats. One of these, located east of the Coyote Hills-Murphy district, is now drilling below 200 feet on part of a 2000 acre lease. The other is located a short distance from the Santa Barbara Mesa field in Santa Barbara county, on the county farm lease of 318 acres. This latter well will go in search of a deep producing horizon prompted by the discovery made in the Mesa field several months ago by Olympic Oil and Refining Co.

With 21 drilling wells and 9 producing wells, Maricopa Flats of the Midway field in the San Joaquin Valley is assuming a place of importance in California oil history. Wellington Oil Co. recently completed its Son No. 1 in the SW NE of Sec. 8-32-23 for an initial output of 2400 barrels of 24.6 gravity oil from a depth of 3396 feet. Company officials believe that the well is capable of making nearly 6000 barrels daily if allowed to flow unrestricted, as under the present production of 1800 barrels there is a tubing pressure of 450 pounds and a casing pressure of nearly 1100 pounds.

California Western Oil Co. is preparing to complete its Havenstrite 1 in section 9 of the Maricopa area—a direct offset to Rio Grande Oil Co.'s recent completion. Rio Grande's well is still averaging 3500 barrels per day of 28 gravity oil that is reported to compare favorably with Signal Hill crude. It is the only producer in the field to tap the third zone found at about 4000 feet.

If California Western obtains a commercial producer, active drilling is expected by other operators who, up until this time, have been content to produce from the overlying sands rather than drill for the deeper producing horizon in a field that is known to be spotted. Calif.-Western's well is standing cemented at 3172 feet after having cored approximately 40 feet of oil sand.

The well is not bottomed, it is thought, in the zone from which Wellington's well is producing but is rather at about the center of the zone. If it is carried to the Rio Grande sand the present zone will be passed up with the intention of coming back later on, should the lower sand prove to be unprofitable.

Barnsdall-Rio Grande interests completed their Tideland permit No. 94-1 for nearly 3000 barrels of 35.5 gravity oil, from a depth of 3512 feet. The combine also has two wells on its Luton-Bell leases—wells Nos. 9 and 10 drilling at 2945 feet and 2200 feet respectively.

Standard Oil Co. is still pulling tubing from its well 11P-81 in the Kettleman Hills. After the tubing is finally removed it is the intention of company engineers to deepen in search of a lower oil horizon.

Mrs. J. S. Cullinan Killed, Husband Injured

HOUSTON, Nov. 7.—Mrs. J. S. Cullinan, wife of the nationally known oil operator, was killed and Mr. Cullinan was painfully injured in a collision of their sedan with a motor bus, near Beaumont, the night of Oct. 26. Force of the impact threw Mrs. Cullinan against the roof of the sedan, crushing her head and breaking her neck. She died within a few minutes. Mr. Cullinan's nose was broken and he received cuts and bruises about the face.

The accident occurred 12 miles west of Beaumont in a misty rain about 8 o'clock at night. Mr. and Mrs. Cullinan, who were driven by a chauffeur, had been in attendance at a convention of the Intercoastal Canal Association, in which he had been active for years.

Mrs. Cullinan, who was widely known for her social and charitable activities, was Miss Lucie Halm of Lima, Ohio, before her marriage, April 14, 1891.

Besides her husband, Mrs. Cullinan is survived by one son, Craig F. Cullinan of Houston, and three daughters, Miss Nina Jane Cullinan and Mrs. Rorick Cravens of Houston, and Mrs. Jack Wray of Roswell, New Mexico.

Mr. Cullinan is chairman of the stockholders advisory committee of the American Republics Corp., which has 22 subsidiaries active in petroleum and allied industries. He organized the old Corsicana Refining Co., late in the 'Nineties, thereby founding the nucleus for the Magnolia Petroleum Co., by which it was absorbed. Later, he founded The Texas Co., and for many years was its head.

On the Western Front

By Jack N. Westsmith
Los Angeles

C. B. WATSON, formerly superintendent of pipe lines and marine loading operations for the Rio Grande Oil Co., has been appointed superintendent of production and drilling in California fields.

Previous to his connection with Rio Grande in 1928 Mr. Watson had wide experience in Texas, Mid-Continent and California fields having operated as an Independent producer and also in various capacities for a number of large oil companies including, Ohio Oil Co. in 1900; Associated Oil Co. at Bakersfield in 1907; Ohio Oil Co. in the Big Muddy field near Casper, Wyoming, in 1915; Midwest Refining Co. in Big Muddy field, in 1916; and with Texas Pacific Coal and Oil Co. as general superintendent of production and drilling for Texas, Louisiana and Arkansas, and Oklahoma.

* * *

Jim Milney, construction engineer for Milham Exploration Co.'s operations at Kettleman Hills is recovering from a recent operation. Although his headquarters are at Coalinga, Calif., he is now taking it easy at his Los Angeles home.

* * *

William Grant, of the auditing department of the Union Oil Co. is traveling in China and reports that although the language and food is slowly turning him native he expects to make it back to the states before going under.

* * *

Pat. M. Longan, executive vice president of the Mexican Seaboard Oil Co., is now attending a conference in the New York offices of the company. He has been busily engaged the past few months in supervising the California operations of Milham Exploration Co., a subsidiary of Mexican Seaboard, and a large holder in Kettleman Hills.

C. B. Watson

* * *

C. W. Britz formerly of the auditing department of Pierce Oil Co., of Tampico has recently taken a residence at Long Beach.

F. V. Patton, lubricating engineer formerly with the Associated Oil Co., has resigned to accept a position in charge of industrial oils and greases in the Everett Washington district of Richfield Oil Co.

* * *

A. C. Galbraith, for the past two years in charge of special sales promotion work for Union Oil Co., was recently made assistant to the vice president. He is at present enroute to Los Angeles from Australia, where he has been carrying on some special work.

* * *

C. Dillenger, general field superintendent for Cia Hollandesa "La Corona" Sa., with headquarters at Tampico, is spending a couple of months in California fields to become acquainted with latest deep drilling methods.

* * *

B. W. Knox, manager of service station leasing department of Richfield Oil Co., has returned to his desk after several weeks of illness.

* * *

"Bill" Green, for many years general manager of Pan American Transportation Co.'s interests in Mexico with headquarters at Tampico, but now vice president in charge of Mexican and South American operations with headquarters at New York, will spend the holiday season at Los Angeles.

* * *

R. E. Beckley, general superintendent of the Standard Gasoline Co., is carrying on the job of president of the California Natural Gasoline Association, left vacant by the resignation of George L. Ratcliffe, to become president of the California Talc Co.

Completions in California, Week Ended November 2, 1929

Baldwin Hills

Company	Well No.	Location	Depth	Init. Prod.
Los Angeles Investment Co.	No. 1-61	....	1822	220

Huntington Beach

Company	Well No.	Location	Depth	Init. Prod.
Rex Oil Co.	No. 14	....	4890	250

Belridge

Company	Well No.	Location	Depth	Init. Prod.
Ohio Oil Co.	No. 23	....	5008	15

Kern Front

Company	Well No.	Location	Depth	Init. Prod.
General Pet. Corp.	Wetmore 8	....	2004	175
General Pet. Corp.	Young 10	....	2049	150

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
Dabney-Johnson Oil Co.	No. 41	....	5780	864
Hancock Oil Co.	Signal 20	....	4317	1800
Hancock Oil Co.	Signal 24	....	6673	300
Rawco Inc.	Lewis 1	....	6767	2400
Richfield Oil Co.	Lekas 3	....	7145	75

Maricopa Flats

Company	Well No.	Location	Depth	Init. Prod.
Standard Oil Co.	Fee 7-9-k	3739		100

Mt. Poso Creek

Company	Well No.	Location	Depth	Init. Prod.
Pacific Western Oil Co.	King 5		1601	No gauge

Santa Fe Springs

Company	Well No.	Location	Depth	Init. Prod.
Getty, Geo. F. Inc.	No. 26	....	7985	7080
Shell Oil Co.	G. H. & N. 22	....	7835	2375
Shell Oil Co.	Slusher 15	....	7840	1062
Shell Oil Co.	Slusher 17	....	8075	646
Standard Oil Co.	Walker 16	....	8137	137
Standard Oil Co.	Weisel 18	....	7993	1290

Ventura

Company	Well No.	Location	Depth	Init. Prod.
Associated Oil Co.	Lloyd 100	....	7957	683

Richfield

Company	Well No.	Location	Depth	Init. Prod.
Continental Oil Co.	Stern 1	....	4625	154

Completions in Oklahoma and Kansas, Week Ended November 9, 1929

OKLAHOMA

Caddo County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	2	NWc NE NE 36-6-10 W	3269-3280	915

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	SWc NE 30-1-3 W	2821-2834	950

Cotton County

Company	Well No.	Location	Depth	Init. Prod.
Shasta	1	SEc NW 1-2-10 W	2243-2250	50
Shasta	6	NEc NW NE NE 2-2-10 W	2187-2197	200
Franklin	1	SEc NW 35-1-10 W	2175-2180	15
Baldwin-Sultan	4	SW SE SE 35-1-10 W	2177-2204	160
Silurian et al	3	SEc NE NW 2-2-10 W	T.D. 2258	Dry

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Silurian et al	1	NEc NW SW 25-15-9 E	T.D. 3830	Dry
Kistler	1	NEc SE SW 16-14-10 E	T.D. 3390	Dry
Texas	1	SE SW NW 25-19-8 E	2378-2398	30
Magnolia	6	SWc NW NE 7-18-7 E	2421-2574	15
Jackson-Wise	1	NEc SE SE 20-18-9 E	T.D. 2849	3M
Bailey	7	CWL NW SW 13-17-10 E	1885-1925	40
Texas Pacific	8	SWc NW NW 17-16-9 E	2658-2678	5
Texas Pacific	9	NWc SW NW 17-16-9 E	2658-2673	10

Hughes County

Company	Well No.	Location	Depth	Init. Prod.
Independent	1	C SW NW 12-7-8 E	2882-2897	40M

Kay County

Company	Well No.	Location	Depth	Init. Prod.
Parrish et al	4	C NE SW 25-28-1 W	T.D. 970	Dry

Logan County

Company	Well No.	Location	Depth	Init. Prod.
Wentz	2	NWc NE 31-19-4 W	5945-5953	1800
Shell	1	SEc SW 30-19-4 W	5910-5946	1870

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Troutt Drlg	2	NEc SE NW 8-15-15 E	1652-1663	15
Paul-Morgan	4	C NE NW 17-15-17 E	1406-1407	3M
Wilson-Barnes	1	SWc NW SW 13-13-19 E	469-477	½M
Bement	1	CNL NE SE 15-13-16 E	1640-1907	6M
Jolly	1	NWc NE SW NW 35-15-18 E	T.D. 1112	Dry

Noble County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	1	SEc SW 26-20-1 W	T.D. 5410	Dry
Gypsy	1	SE NW NE 24-22-1 E	T.D. 5053	Dry
Sinclair	1	NWc SE 33-21-1 W	5416-5418	11M

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Mid-Continent	4	NW SW NE 31-11-11 E	3012-3024	150
Betty-Ann	1	NWc SE 5-12-11 E	T.D. 2970	Dry
Barnsdall	1	NWc SE 18-10-11 E	T.D. 3695	Dry
Umburn	2	SWc NW SE NW 3-10-11 E	T.D. 1670	Dry

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Lowery	14	NWc NE 26-13-14 E	T.D. 1946	Dry

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Presbury et al	3	SEc NE NE NW 35-24-8 E	T.D. 750	Dry
I. T. I. O.	418	NE SW SE 20-23-8 E	1105-1145	2½M
Barnsdall et al	6	NW NE SE 22-22-11 E	1630-1638	10
I. T. I. O.	417	SWc SE SW NW 8-24-9 E	630-747	3M
Berlin	11	SW NE SW 20-29-9 E	1543-1583	10

Payne County

Company	Well No.	Location	Depth	Init. Prod.
Shaffer	2	NW SW NE 4-18-5 E	3459-3476	755

Pittsburg County

Company	Well No.	Location	Depth	Init. Prod.
Golton-Lester	1	NE SE SE 10-7-18 E	1803-1807	27M

Pontotoc County

Company	Well No.	Location	Depth	Init. Prod.
Superior	5	SWc NW 32-5-5 E	2495-2655	130
Benedum-Trees	6	SW NW NE 31-5-5 E	2463-2651	500
Homaokla	1	NW SE NW 33-5-8 E	1480-1492	2M

Pottawatomie County

Company	Well No.	Location	Depth	Init. Prod.
I. T. I. O.	2	NW NE NW 2-7-4 E	3744-3943	1050
I. T. I. O.	1	NEc NW 2-7-4 E	3690-4007	80
Pierce	1	NWc SW 20-7-4 E	3731-4219	OWD 11
Magnolia	2	NWc SW 15-7-4 E	4285-4289	2850
Magnolia	4	SEc NE 14-7-4 E	T.D. 4240	25
Shell	2	SE SW NW 22-7-4 E	3637-3798	10M
Indep. et al	1	SW SE NW 22-7-4 E	3600-3650	14M
Empire	3	NE SE NE 8-8-5 E	4033-4050	600
Tidal et al	1	SEc NW 27-7-4 E	T.D. 4526	Dry
Phillips	3	SW NE NE 25-7-4 E	T.D. 4300	Dry
Cal Cul	1	NW NE NW 9-8-3 E	T.D. 5490	Dry
Sunray et al	1	NEc 28-7-5 E	T.D. 4310	Dry

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
I. T. I. O.	1	NWc SE 13-6-7 E	T.D. 4748	Dry
Gypsy et al	1	SW NW SE 20-7-6 E	T.D. 4426	Dry
Amerada	1	SWc NE 32-10-6 E	T.D. 4430	Dry
I. T. I. O. et al	1	SWc NE 12-10-6 E	T.D. 4793	Dry
Sinclair	4	SE NW SE 23-5-7 E	4138-4240	625
Sinclair	3	SW NE SE 23-5-7 E	4160-4165	500
Sinclair	7	SEc 5-7-7 E	4179-4212	2250
Empire	13	SEc NE 11-8-5 E	4454-4486	15
Carter	2	NW SW SE 2-8-5 E	4219-4225	2725
Texas	4	NEc NW 14-9-6 E	4199-4226	625
Carter	2	SW NE NE 6-9-6 E	4305-4320	105
Carter	1	NEc 6-9-6 E	4295-4307	100
Burke-Greis et al	1	SWc 32-10-6 E	4309-4340	319

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Parsons et al	1	SW SE SW 22-2-7 W	T.D. 2269	Dry
Pace et al	1	NEc 24-2-8 W	T.D. 2311	Dry
Beaver	2	CSL N½ NE NW 30-1-8 W	T.D. 2302	Dry

Tillman County

Company	Well No.	Location	Depth	Init. Prod.
Riley et al	1	NWc SW 34-4-14 W	T.D. 2213	Dry

Tulsa County

Company	Well No.	Location	Depth	Init. Prod.
Glidden	1	NEc SE NE 4-19-10 E	T.D. 2197	Dry
Union Drlg	1	NEc NW NE 13-19-10 E	T.D. 1855	Dry
Superior	2	SEc NE NW 18-19-12 E	T.D. 2445	Dry

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
Webb et al	2	NEc SW 6-16-16 E	T.D. 1630	Dry
Cherokee Public Service	1	SW NE SE 35-16-17 E	T.D. 895 OWD	Dry

KANSAS

Butler County

Company	Well No.	Location	Depth	Init. Prod.
Empire	12	SE NE SE 22-27-5 E	2735-2760	200
Wentz et al	1	NW NE SE 6-28-6 E	T.D. 3174	Dry
Morgan et al	1	SEc NW 8-26-7 E	T.D. 3154	Dry
Milmac	1	SWc 33-25-3 E	T.D. 3255	Dry

Elk County

Company	Well No.	Location	Depth	Init. Prod.
Union et al	1	C NE NE 5-31-9 E	T.D. 1877	Dry
Croft-Frazier	1	C NW NW 32-30-11 E	T.D. 2000	Dry

Ellis County

Company	Well No.	Location	Depth	Init. Prod.
Thomas-Moncreif	1	NWc SE 9-13-19 W	3597-3603	175

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Phillips	5	SE NE NE 28-23-11 E	1857-1929	80

McPherson County

Company	Well No.	Location	Depth	Init. Prod.
Gardner	1	C NW SW 32-18-2 W	2942-2964 OWD	25
Shell et al	1	C NW NW 18-19-2 W	2996-3000	10
Slick-Pryor-Lockhart	1	NE NW NW 34-20-3 W	3100-3108	255
Shell et al	1	SWc 8-18-3 W	T.D. 3725 OWD	Dry

Sedgwick County

Company	Well No.	Location	Depth	Init. Prod.
Shell	4	SEc NW SW 15-26-2 E	T.D. 2923	Dry
Graham Bros.	1	NEc SW SW 15-26-2 E	T.D. 2970	Dry
Boyle-Woods	1	NW NE SE 34-26-1 W	T.D. 3510	Dry
Plains et al	1	SE SW SW 2-27-1 W	3400-3401	170
Shell et al	1	NWc SW SE SW 15-26-2 E	2928-2929	100
Shell	1	SW SW SW 11-26-2 E	2857-2860	1290
Wentz	4	SW SE NW 1-26-1 W	3363-3367	900
Skelly et al	14	NWc NE 1-26-1 W	3368-3375	200
Bu Vi Bar et al	1	SE SW NE 12-26-1 W	3340-3448	1360

Sumner County

Company	Well No.	Location	Depth	Init. Prod.
Champlin	4	SE NW SW 9-20-2 W	3035-3066	75
Laredo	1	SWc SE 9-34-1 E	T.D. 800	Dry
Mid-Continent	1	SEc 31-34-3 W	T.D. 4870	Dry

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended November 9, 1929

OKLAHOMA

Atoka County

Company	Well No. & Farm	Location
Brookshire et al	1-Guinn	NWc 18-3-10 E

Carter County

Company	Well No. & Farm	Location
Trevelyn	1-Spigner	NW SW NW 24-1-3 W

Comanche County

Company	Well No. & Farm	Location
Okla. Natural	1-Doebel	C SW SW 3-3-9 W

Cotton County

Company	Well No. & Farm	Location
Shasta	1-Watkins	NEc SW 1-2-10 W
Shasta	8-Slogan	CSL N½ NE 2-2-10 W
Razor et al	2-Chambers	CEL SE SW 35-1-10 W

Creek County

Company	Well No. & Farm	Location
Gled	1-Reade	NW SE SW 25-19-8 E
Magnolia	12-Lewis	CWL SW 27-17-7 E
Comal	6-Pemberton	NEc SW NW 8-17-10 E
Ice	10-Fulsom	SWc 13-17-10 E
Deadman et al	2-Sheppard	NE SE SW 17-17-10 E
Transcontinental	1-Williams	NWc SE 15-16-9 E
Independent	6-Smith	NEc SW 15-14-8 E

Hughes County

Company	Well No. & Farm	Location
Troutt Drlg	1-Bird	C NW NW 5-8-7 E

Jefferson County

Company	Well No. & Farm	Location
Johnson et al	1-Briggs	SWc 36-3-4 W

Kay County

Company	Well No. & Farm	Location
Parrish et al	1-Balzier	SWc NE 3-27-2 E
DeCamp et al	1-Van Valkenburg	C NE SE 25-28-1 W

Lincoln County

Company	Well No. & Farm	Location
Magnolia	2-Benedict	NE SE NW 7-14-4 E
Mead Bros. et al	2-Meadville	SEc SW 25-17-3 E

Marshall County

Company	Well No. & Farm	Location
Bilbo	1-Taliferro	SEc NE SE SE 14-5-5 E
Goddard	1-McComas	SWc 13-5-5 E

Muskogee County

Company	Well No. & Farm	Location
Aggas	3-Hawkins	SEc NW SE 28-16-15 E
Grubbs et al	1-Robins	NWc SW NE 26-15-16 E
Mills et al	2-Foreman	SWc NW SW 14-13-18 E
Ray et al	2-Foreman	SWc NE SW 14-13-18 E
Johnston et al	1-Kelly	NWc SE SW 13-13-18 E
Burke et al	1-Morris	CNL SW NW 24-13-18 E

Okfuskee County

Company	Well No. & Farm	Location
Sunray	1-Palmer	NW SW SW 29-13-12 E
Rebold Drlg	4-Skelton	CEL SW NE 2-13-12 E
Sunray et al	2-Wilson	NEc NW SW 22-12-11 E
Mid-Cont. et al	2-Dindy	SWc NW NE 31-11-11 E
Eagle Pitcher	5-French	SEc SW NW 17-11-12 E
Atlantic	1-Snell	NE SW NW 13-10-11 E

Oklahoma County

Company	Well No. & Farm	Location
Magnolia-Ramsey	1-Johnson	NEc SW 35-13-3 W

Okmulgee County

Company	Well No. & Farm	Location
Billingslea et al	1-Chamberlain	NEc NW NE 3-14-12 E
Simms	6-Grayson	CSL SE SW 16-13-14 E
Penrod-Thompson-Aiken	11-Fox	CSL N½ SE NW 22-13-14 E

Osage County

Company	Well No. & Farm	Location
Stanley	8	NWc SE 36-22-8 E
Peters et al	2	NE SE NW 28-21-11 E
Smith-Leahy et al	1	SWc 10-25-9 E
Goodman	3	SW NE NW 12-26-11 E
Peters	2	CNL NW 27-27-11 E
Peters	1	NEc NW 27-27-11 E
Peters-Prod. & Ref.	4 "A"	CSL SW 22-27-11 E
I. T. I. O.	422	SE NW NW 2-28-10 E
Winona	8	CEL W½ NE 20-29-9 E

(Continued on Page 47)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended November 9, 1929

(Continued from Page 46)

Pawnee County

Company	Well No. & Farm	Location	
Foster	7-Little	SE NW NW 6-20-8 E	

Pontotoc County

Benedum-Trees	1-Browall	SE NE NW 31-5-5 E	
Benedum-Trees	3-Lowery	NW SW NE 31-5-5 E	
Universal	3-Krueger	NW SE SW 25-5-6 E	
Belchie-Laskey	2-Oliver	NW SW NW 32-5-7 E	

Pottawatomie County

Interocean	2-Coley	SW NE SE 24-7-4 E	
Gypsy	1-Pappan	NEc 29-7-4 E	
Russell et al	1-Coley	NW SE SE 24-7-4 E	
Minnehoma	3-Simms	NEc SE 16-7-4 E	OWD
Magnolia	2-Ogle	NE SE SW 22-7-4 E	
Indep.-Mid Kansas	1-Asher	NEc 3-7-4 E	
Magnolia	1-Walker	NE NW NE 21-7-4 E	
Amerada	3-Smith	NEc 8-8-5 E	
Amerada	2-Smith	SW NE NE 8-8-5 E	
Sinclair	2-Smith	NWc 9-8-5 E	
Magnolia	1-Peck	SWc NW 6-8-5 E	

Seminole County

Magnolia	2-Parley	SW SE SE 14-5-7 E	
Sunray	8-Cully	NE SW NE 18-5-8 E	
Magnolia	2-Spillman	SW NE SE 12-6-7 E	
Gypsy et al	1-Bruner	NE SE NW 23-8-5 E	
Carter	4-Coker	NE SE SW 2-8-5 E	
Carter	3-Coker	NW SE SW 2-8-5 E	
Continental et al	1-Harjo	NWc SE 26-8-5 E	
Gypsy	1-Taylot	SE NE SW 19-9-6 E	

Stephens County

Fossett et al	1-Dial	SE NW NE 18-1-8 W	
Douthitt et al	2-Nigh	SEc NW NW 34-1-8 W	
Hart	1-Hulshizer	NWc SW 9-1-8 W	

Wagoner County

Mack Drlg	1-Lovett	C SW SE 25-16-15 E	

Woods County

Peerless	1-Cromwell	C NW NE 23-28-16 W	

KANSAS

Coffey County

Darby	1-Scott	SEc NW 13-23-14 E	
Prairie	1	SWc NE 13-23-14 E	
Selby	1-Scott	NEc SW 13-23-14 E	
Young et al	1-Lenring	SEc NW 11-23-14 E	

Edwards County

Skelly	1-Johnson	NEc SW 21-26-17 W	

Elk County

Ramsey et al	1-Denton	NW NE NW 10-31-8 E	
Empire et al	1-Record	SW SE SE 32-30-10 E	
Minnehoma et al	2-Denton	NWc SW SW 3-31-8 E	OWD

McPherson County

Dixie	1-Johnson	SWc 20-17-3 W	
Derby	1-Krehbiel	NW NE SW 34-20-3 W	

Sedgwick County

Fisher-Lauck	1-Trustee	NE SW SE 19-27-2 E	
Gypsy	4-Hamant	NWc 14-26-2 E	
Bu Vi Bar et al	10-Wright	SW SE NE 12-26-1 W	

Sumner County

Laredo	1-Welch	SWc SE 9-34-1 E	
Hatfield et al	1-Dauber	NEc 18-30-1 W	

TEXAS
NORTH CENTRAL & EAST CENTRAL

Brown County

				Survey
Texas	11-Kesler	Sec-42		Kesler
Tex-Cal	2-Martin	Sec-11		HT&B
Tex-Cal	3-Martin	Sec-11		HT&B
Tex-Cal	4-Martin	Sec-11		HT&B
Buder	6-Munselle	Blk-3		Arenback
Gulley	1-Armstrong	Blk-1		H&CN
Buder	7-Munselle	Blk-3		Arenback
Gilman-McMurray et al.	21-Teston	Blk-155		Smith
Owens Inc. et al	7-Cannon	Blk-3		Arenback
Windsor	1-Pierce	Blk-44		Baze
Humble	1-Carter State Ld.	.....		Kinsey

Callahan County

Mundy	1-Green	Sec-27		D&DA
Lilius et al	2-Morgan	Sec-132		Webb
Grass Roots	1-Clutts	Blk-5		Brown

Comanche County

Hopkins et al	1-Copers	Sec-44 Blk-2		H&TC

Coleman County

Smith	9-Morris	Blk-483		Woods
Joiner et al	2-Stewardson	Sec-96		ET
Tower-McKanna	8-Crowder	Blk-483		Woods
Eastland	1-Griffin	Blk-483		Woods
Gwinnup et al	1-Campbell	Sec-25 Blk-1		GH&H
Morrison-St. John	2-Eddington	Blk-187	Victoria Co. Sch. Ld.	

Eastland County

Tex-Wa & Kirk	2-Palmer	Sec-29 Blk-2		H&TC
Tex-Wa & Kirk	5-Turner	Sec-30 Blk-2		H&TC

Jack County

Petroleum Prod	1-Raley	.....		Hughson
Boles et al	2-Raley	.....		Hughson

Runnels County

Gibson-Johnson	2-Serrat	Sec-150		ET

Stephens County

Lone Star	5-Elliott	Sec-37 Blk-7		T&P
Lone Star	1-McKelvain	Sec-2 Blk-C		SP

Shackleford County

Company	Well No. & Farm	Location	
Fuzzell-Sucalley	2-Alexander	Sec-80	TE&L
Hart-Wright	1-Clark	Sec-2	BAL
Ducker et al	1-Mathews	Sec-584	TE&L
Hughes	2-Davis	Sec-47 Blk-13	T&P
Deaner	1-Bowman	Sec-89 Blk-12	T&P

NORTH TEXAS

Archer County

Panhandle	4-Matlock	.....	Dorsey
United Prod	1-Lyles	Sec-2	SP
Burns	2-Wilson	Sec-115	ATNCL
Hutchinson	2-Hutchinson	Sec-142	Harris
Minnich	1-Wilson	.....	Richards
Moran-Golding-Cochran	1-Brown et al.	Blk-24	Meade
Cline et al	1-Hayter	Sec-2423	TE&L
Gardner Bros	1-Hamilton	Sec-8	BBB&C
Douglas	4-McClure	Blk-13	Crawford
M & V Oil Co	4-Lauster	Sec-3	BBB&C
Goldsmith-King	3-Kunkel	Sec-4	BBB&C

Clay County

Art et al	2-Byers Bros.	Blk-16	Parker Co. Sch. Ld.
Art et al	3-Byers Bros.	Blk-16	Parker Co. Sch. Ld.
Heydrick-Reeden et al.	1-Byers Bros.	Blk-16	Parker Co. Sch. Ld.

Cooke County

Lloyd	6-Wheelock	.....	Underwood
Graves et al	31-Carpenter	.....	Warner
Coline	5-Huggins	.....	SP
Fain-McGaha	1-Wells	.....	Wilcox
Fain-McGaha	2-Wells	.....	Jewel
Sikes-Conway Inc.	1-McCollum	.....	MEP&P

Wichita County

Panhandle	12-Barnett	.....	Meade
HiLand	1-Campbell	League-4 Blk-5	DCSL
Underwood Drlg	1-Boyd et al.	Blk-14	DL&C

Wilbarger County

Staley-Wynne	E6-Waggoner	Sec-25 Blk-4	H&TC
Waggoner	I14-Waggoner	Sec-25 Blk-4	H&TC
Texas	365-Waggoner	Sec-39 Blk-4	H&TC
Grayback Dev	2-Waggoner	Sec-32 Blk-2	H&TC
Heydrick	1-Rhodes	Blk-79	Waggoner
Ven-Mex	F3-Waggoner	Sec-8 Blk-4	H&TC
Golding-Cochran	K3-Waggoner	Sec-4 Blk-17	H&TC
Fain-McGaha	L15-Waggoner	Sec-31 Blk-4	H&TC
Lewis Prod	B9-Waggoner	Sec-8 Blk-4	H&TC
Lewis Prod	B10-Waggoner	Sec-8 Blk-4	H&TC
Empire	B25-Waggoner	Sec-32 Blk-4	H&TC
Empire	C17-Waggoner	Sec-25 Blk-4	H&TC
Empire	C18-Waggoner	Sec-25 Blk-4	H&TC
Ven-Mex	F4-Waggoner	Sec-8 Blk-4	H&TC
Easter	C5-Waggoner	Sec-25 Blk-4	H&TC
Grayback Dev	2-Waggoner	Sec-40	MEP&P

Young County

Panhandle	4-Prideaux	.....	I&GN
Halbrook-Woods	5-Dean	Blk-19	YCSL
Perkins-Cullum	5-Lemmon	.....	BBB&C
Wise-Jackson	4-Cullers	.....	Hyatt
Combs-Rogers	1-Eichelberger	Sec-1472	TE&L
Cox-Meyer et al	31-Cox	Blk-13	YCSL
Lederman et al	4-Garrett	Blk-12	YCSL
Junker	1-Boley	Sec-194	TE&L
Reed-Woolen et al	1-Fisher	.....	Casey
Riggs-Williams	2-Shatt	Sec-1916	TE&L
Garsuch	2-Matthews	.....	Rohus
Johnson et al	1-Edwards	Sec-71	TE&L
Goldsmith-King	3-Kunkel	.....	Stell
United Prod	3-Kunkel	.....	Stell
Campbell-Underwood Drlg.	2-Campbell	Sec-1376	TE&L
Texas	3-Stewart	.....	BBB&C

PANHANDLE

Note:—Not reporting

WEST TEXAS

Crockett County

Empire	1-Shannon	Sec-42 Blk-BB	EL
Texas Pacific	1-Shannon	Sec-44 Blk-BB	TC

Howard County

Godley	7-Hooks	Sec-140 Blk-29	W&NW
Humble	6-Clay	Sec-138 Blk-29	W&NW
Gulf Prod	9-Clay	Sec-155 Blk-29	W&NW
California	4-Roberts	Sec-37 Blk-29	W&NW

Irion County

Irion County Drlg.	3-Tankersley	Sec-4	Wallace

Loving County

Lockhart	1-Wheat	Sec-85 Blk-33	H&TC

Pecos County

Landreth Prod	F1-Univ.	Sec-31 Blk-16	Univ.
Landreth Prod	C3-Univ.	Sec-31 Blk-16	Univ.
California	2-Tippett	Sec-2	Robertson
McMan	10-Smith	Sec-25 Blk-194	GC&SF

Reeves County

Best	1-Kinney et al.	Sec-26 Blk-C-18	PSL

Ward County

Shipley et al	5-Hazlett	Sec-17 Blk-5	H&TC
Penn & Atlantic	2-Bennett	Sec-16 Blk-34	H&TC

Completions in Texas, Week Ended November 9, 1929

NORTH CENTRAL & EAST CENTRAL

Brown County

Company	Well Farm	Survey Sec. & Blk.	Depth	Init. Prod.
Buder	5-Kesler	Kesler Sec-42	1320-1340	150
Gordon	2-Cannon	Arenbeck Blk-3	1172-1189	380
Gordon	3-Cannon	Arenbeck Blk-3	1180-1195	300
Humble	3-Munselle	Arenbeck Blk-3	1130-1145	25
Smith	10-George	Chaddick	1330-1343	150
Texas	10-Kesler	Kesler Sec-42	1289-1305	15
Buder	5-Munselle	Arenbeck Blk-3	T.D. 1192	Dry
Cranfill-Reynolds et al.	1-McDonald	..... Blk-60	T.D. 802	Dry
DeMont	11-Newton	Jones Blk-282	T.D. 169	Dry
Owens	6-Cannon	Arenbeck Blk-3	T.D. 1208	Dry

Callahan County

Condor	2-Windham	SP Sec-4 Blk-3	T.D. 1633	Dry
Moutray-Grice	1-Barclay	Dickens	T.D. 948	Dry
Tilins et al.	1-Morgan	Webb Sec-132	T.D. 590	Dry
Kile et al.	1-Wagley	TE&L Sec-2993	T.D. 400	Dry
Moore	9-McDaniels	Comal Co. Sch. Ld. Blk-56	T.D. 376	Dry
Moore	4-Franke	Comal Co. Sch. Ld. Blk-55	T.D. 754	Dry
Moore	8-Franke	Comal Co. Sch. Ld. Blk-55	T.D. 342	Dry
Moore	10-Franke	Comal Co. Sch. Ld. Blk-55	T.D. 375	Dry
Moore	12-Franke	Comal Co. Sch. Ld. Blk-55	T.D. 380	Dry
Moore	15-Franke	Comal Co. Sch. Ld. Blk-55	T.D. 360	Dry
Moore	2B-McDaniels	Comal Co. Sch. Ld. Blk-56	T.D. 360	Dry
Moore	4b-McDaniels	Comal Co. Sch. Ld. Blk-56	T.D. 358	Dry
Jones et al.	8-Ramsey	TE&L Sec-2282	T.D. 247	Dry
Davis-Hunt-Dichlman	1-Cattle	TE&L Sec-3196	348-351	¼M
Skelly et al.	1-Orrell	Comal Co. Sch. Ld. Blk-97	1669-1700	2
Great House-Russell	1-Ramsey	TE&L Sec-2282	260-267	1
Great House-Russell	2-Ramsey	TE&L Sec-2282	258-265	½ bbl.
Moore	1-McDaniels	Comal Co. Sch. Ld. Blk-56	360-367	10
Moore	2-McDaniels	Comal Co. Sch. Ld. Blk-56	351-369	10
Moore	3-McDaniels	Comal Co. Sch. Ld. Blk-56	350-377	15
Moore	4-McDaniels	Comal Co. Sch. Ld. Blk-56	367-373	10
Moore	5-McDaniels	Comal Co. Sch. Ld. Blk-56	378-390	50
Moore	6-McDaniels	Comal Co. Sch. Ld. Blk-56	349-379	15
Moore	7-McDaniels	Comal Co. Sch. Ld. Blk-56	348-379	15
Moore	8-McDaniels	Comal Co. Sch. Ld. Blk-56	339-370	48
Moore	10-McDaniels	Comal Co. Sch. Ld. Blk-56	344-373	30
Moore	11-McDaniels	Comal Co. Sch. Ld. Blk-56	348-373	15
Moore	12-McDaniels	Comal Co. Sch. Ld. Blk-56	345-378	15
Moore	13-McDaniels	Comal Co. Sch. Ld. Blk-56	344-372	15
Moore	14-McDaniels	Comal Co. Sch. Ld. Blk-56	345-374	15
Moore	15-McDaniels	Comal Co. Sch. Ld. Blk-56	342-375	10
Moore	16-McDaniels	Comal Co. Sch. Ld. Blk-56	355-372	1½
Moore	1-Franke	Comal Co. Sch. Ld. Blk-55	358-376	10
Moore	2-Franke	Comal Co. Sch. Ld. Blk-55	358-375	12
Moore	3-Franke	Comal Co. Sch. Ld. Blk-55	358-365	8
Moore	5-Franke	Comal Co. Sch. Ld. Blk-55	327-347	7
Moore	6-Franke	Comal Co. Sch. Ld. Blk-55	359-377	8
Moore	7-Franke	Comal Co. Sch. Ld. Blk-55	357-380	7
Moore	9-Franke	Comal Co. Sch. Ld. Blk-55	358-374	10
Moore	11-Franke	Comal Co. Sch. Ld. Blk-55	355-380	50
Moore	13-Franke	Comal Co. Sch. Ld. Blk-55	360-368	12
Moore	14-Franke	Comal Co. Sch. Ld. Blk-55	338-360	15
Moore	B1-McDaniels	Comal Co. Sch. Ld. Blk-56	355-358	4
Moore	3B-McDaniels	Comal Co. Sch. Ld. Blk-56	345-355	3
Moore	5B-McDaniels	Comal Co. Sch. Ld. Blk-56	339-353	3
Moore	6B-McDaniels	Comal Co. Sch. Ld. Blk-56	338-350	3
Jones et al.	1-Ramsey	TE&L Sec-2282	212-220	3
Jones et al.	2-Ramsey	TE&L Sec-2282	239-245	4
Jones et al.	3-Ramsey	TE&L Sec-2282	243-259	3
Jones et al.	4-Ramsey	TE&L Sec-2282	240-248	4
Jones et al.	5-Ramsey	TE&L Sec-2282	240-248	4
Jones et al.	6-Ramsey	TE&L Sec-2282	245-255	2
Jones et al.	7-Ramsey	TE&L Sec-2282	248-260	½ bbl.
Jones et al.	9-Ramsey	TE&L Sec-2282	228 230	1½

Coleman County

Continental et al.	6-Overall	Barkley Blk701	2182-2186	6
Eastland	1-Crowder	Woods Blk-483	2041-2042	150
Elrod-Bebart-Sullivan	5-Hass	GH&H Sec-71	1491-1507	50
Midwest Explor.	6-Keeney	Cochran Blk-269	2008-2025	20
Peruvian-Gibson-Johnson	2-Crowder	Woods Blk-483	2028-2030	15
Peruvian et al.	3-Crowder	Woods Blk-483	2010-2032	548
Smith	4-Morris	Woods Blk-483	1993-2015	60
Tower-McKenna	2-Crowder	Woods Blk-483	1982-2018	100
Tower-McKenna	6-Crowder	Woods Blk-483	1993-2030	185
White Eagle	3-Morris	Webber Blk-722	2013-2030	185
White Eagle	9-Morris	Webber Sec-25 Blk-722	2017-2027	250
White Eagle	11-Morris	Webber Sec-25 Blk-722	2030-2034	125
White Eagle	15-Morris	Webber Sec-26 Blk-722	2012-2023	150
White Eagle	20-Morris	Webber Sec-26 Blk-722	2004-2029	200
Eastland et al.	1-Newsome	Eubanks Blk-270	T.D. 2016	Dry
Taylor-Link	1-Williamson	ET Sec-105	T.D. 2142	Dry

Eastland County

Davis	1-Webb	H&TC Sec-12 Blk-2	T.D. 1603	Dry
Pollard-Forster	1-Spencer	H&TC Sec-29 Blk-2	T.D. 1490	Dry
Hopkins	1-Davis	H&TC Sec-54 Blk-4	T.D. 5133	Dry
Mook Texas	1-Casey	McLennon Co. Sch. Ld. Blk-59	T.D. 3732	Dry
States	3-Coon	H&TC Sec-27	1269-1291	10
Mook Texas	1-Williamson	Norman	3188-3205	25

Jack County

F. H. E. Oil Co.	4-Leffet	Hughson	3071-3162	30
Shaley et al.	1-Loving	TE&L Sec-2746	T.D. 3459	Dry

Shackleford County

James	1-Herron	T&P Sec-10 Blk-11	T.D. 1221	Dry
Tannehill	26-Newell	T&P Sec-11 Blk-11	925-926	50
Treat	4-Mathews	ET Sec-33	1034-1043	5

Throckmorton County

Shappell	4-Thomason	Lot-95	T.D. 950	Dry

NORTH TEXAS

Archer County

Company	Well Farm	Survey Sec. & Blk.	Depth	Init. Prod.
Burns	1-Wilson	ATNCL Sec-115	1447-1450	72
Douglas	2-McClure	Crawford Blk-13	1299-1300	85
Humble	9-Kunkel	BBB&C	1117-1122	70
Moran Drlg. et al.	1-Chandler	Meade Blk-24	1428-1432	42
Abercrombie	1-Harrison	Clark et al. Sec-11 Blk-5	T.D. 1200	Dry
Douglas	3-McClure	Crawford Blk-13	T.D. 1336	Dry
Peacock-Tedford	2-Williams	Swing	T.D. 640	Dry
Stumpf	1-Ward	BBB&C	T.D. 1101	Dry
Trahan et al.	1-Netherton	ATNCL Sec-104	T.D. 1612	Dry

Baylor County

Fain-McGaha	FF1-Waggoner	H&TC Sec-18 Blk-6	T.D. 2437	Dry

Cooke County

Fain-McGaha	1-Judy	Clements	T.D. 1930	Dry
Gist-Grady	1-Harris	Harris	T.D. 1807	Dry
Kewanee	1-Burns	Pickering	T.D. 1791	Dry
Lanier et al.	1-Hunt	Dooley	T.D. 2505	Dry
Thorten-Taulbert	1-Hyman	Pickering	T.D. 2003	Dry
Danciger	13-Huggins	SP	1126-1134	275
Shell	7-Field et al.	Stanley	1144-1194	70

Wichita County

Bateman-Dingee	1-Woodward	Waggoner Sec-290	T.D. 1961	Dry
Comac Drlg.-Prairie	1-Bishop	Netherly	T.D. 1835	Dry
Cons.-Turne	1-Barton	KWVFL Sec-1 Blk-4	T.D. 1810	Dry
Dixon et al.	Chilson	DCSL League-4 Blk-24	T.D. 1857	Dry
Omahundro	1-Pace	Scott	T.D. 1865	Dry
Alberta	1-Gibson	Waggoner Blk-302	T.D. 1998	Dry

Wilbarger County

Consolidated	T1-Waggoner	H&TC Sec-23 Blk-4	T.D. 1930	Dry
Fain-McGaha	HH1-Waggoner	H&TC Sec-9 Blk-4	T.D. 1987	Dry
Barkely-Meadows	B3-Waggoner	H&TC Sec-17 Blk-4	2414-2415	10
Bradstreet	H1-Waggoner	H&TC Sec-41 Blk-4	1880-1887	45
Davis	2-Waggoner	H&TC Sec-35 Blk-2	2648-2684	405
Easter	C4-Waggoner	H&TC Sec-25 Blk-4	1926-1931	80
Fain-McGaha	L13-Waggoner	H&TC Sec-31 Blk-4	2317-2323	120
Lewis Prod.	B8-Waggoner	H&TC Sec-8 Blk-4	1944-1948	85
Simpson-Fell	A3-Waggoner	H&TC Sec-36 Blk-2	2672-2700	32
Staley-Wynne	E4-Waggoner	H&TC Sec-25 Blk-4	2397-2407	129
Staley-Wynne	E5-Waggoner	H&TC Sec-25 Blk-4	1884-1890	87
Staley-Wynne	F8-Waggoner	H&TC Sec-32 Blk-4	2413-2422	153

Young County

Bridwell	4-Cullers	Hyatt	545-560	5
Hawkins	7-Owens	BBB&C	730-739	60
Lederman et al.	3-Garrett	YCSL Blk-12	496-501	35
Wise-Porterfield	2-Cullers	Stinnett	560-597	8
Allday-Beavers	1-Johnson	Sergeant Blk-6	T.D. 614	Dry
Young-United Prod.	1-Foster	TE&L Sec-289	T.D. 600	Dry
Atlantic-Rogers	1-Garvey	TE&L Sec-1858	T.D. 853	Dry
Bonner	1-Davis	TE&L Sec-1395	T.D. 900	Dry
Bridwell	5-Cullers	Hyatt	T.D. 717	Dry
Inman-Lisle	1-Jones	TE&L Sec-273	T.D. 715	Dry
Panhandle	1-Ward	Jameson	T.D. 850	Dry
Parks et al.	7-Carpenter	Sergeant	T.D. 620	Dry
Williams et al.	1-Price	TE&L Sec-257	T.D. 596	Dry

PANHANDLE

Note:—Not reporting

WEST TEXAS

Brewster County

Weekly-Johns	1-Jackson et al.	GH&SA Sec-104 Blk-10	T.D. 4101	Dry

Crane County

Gulf Prod.	67-McElroy	CCSD Sec-201 Blk-F	2803-2965	220

Glasscock County

Kirby et al.	1-Baker	T&P Sec-23 Blk-33	2240-2285	473 (16 Hrs.)
Sun	2-Phillips	T&P Sec-14 Blk-33	2250-2260	660

Howard County

Simms	1-Clay	W&NW Sec-127 Blk-29	2910-2924	720
Moody	19E-Roberts	W&NW Sec-136 Blk-29	1325-1413	50
Gulf Prod.	8-Clay	W&NW Sec-155 Blk-29	1832-1857	150
Godley	6-Hooks	W&NW Sec-140 Blk-29	1836-1858	65 (20 Hrs.)
Shell	1-Kloh	T&P Sec-13 Blk-33	2170-2305	550
Continental	1-Kloh et al.	T&P Sec-13 Blk-33	2338-2350	600

Pecos County

California	1-Univ.	Univ. Sec-12 Blk-18	1666-1700	120
Henshaw et al.	1-Univ.	Univ. Sec-24 Blk-18	1004-1030	42
Humble	11-Smith	TC Sec-36 Blk-194	1430-1560	35 (1 Hr.)
McMan	5-Richardson et al.	TC Sec-107	1337-1400	10 (1 Hr.)
California	5-Smith Lse-1	TC Sec-21 Blk-194	1316-1421	876 (7 Hrs.)
Indep. et al.	3-McDonald	H&GN Sec-46 Blk-12	T.D. 1677	Dry
Landreth Prod.	1-McDonald	H&GN Sec-46 Blk-12	T.D. 1698	Dry
Tidal	1-McDonald	H&GN Sec-46 Blk-12	T.D. 1735	Dry
Gulf Prod.	1-Hale	State Lands Sec-16 Blk-20	T.D. 1695	Dry
Sun	1-Carlson	Univ. Sec-34 Blk-18	T.D. 2244	Dry
Phillips	1-Courtney	Sec-78 Blk-OW	T.D. 2936	Dry

Presidio County

Miller et al.	1-Toole	D&P Sec-75 Blk-3	T.D. 4780	Dry

Reagan County

Big Lake	171-Univ.	Univ. Sec-12 Blk-2	2860-2878	60

Upton County

Gulf Prod.	68-McElroy	CCSD Sec-200 Blk-F	2870-2988	50

Ward County

Gulf Prod.	6-O'Brien	GMMB&A Sec-20 Blk-F	2721-3050	270
Gulf Prod.	2-Hutchings	GMMB&A Sec-7 Blk-0	3002-3272 P.B. 3012	95

No history of the Rotary Method of Drilling would be Complete without the Story of the Design, Perfection and Performance of

HUGHES ROCK BITS

HUGHES TOOL COMPANY

Service Plants:
Los Angeles, Calif.
Oklahoma City, Okla.

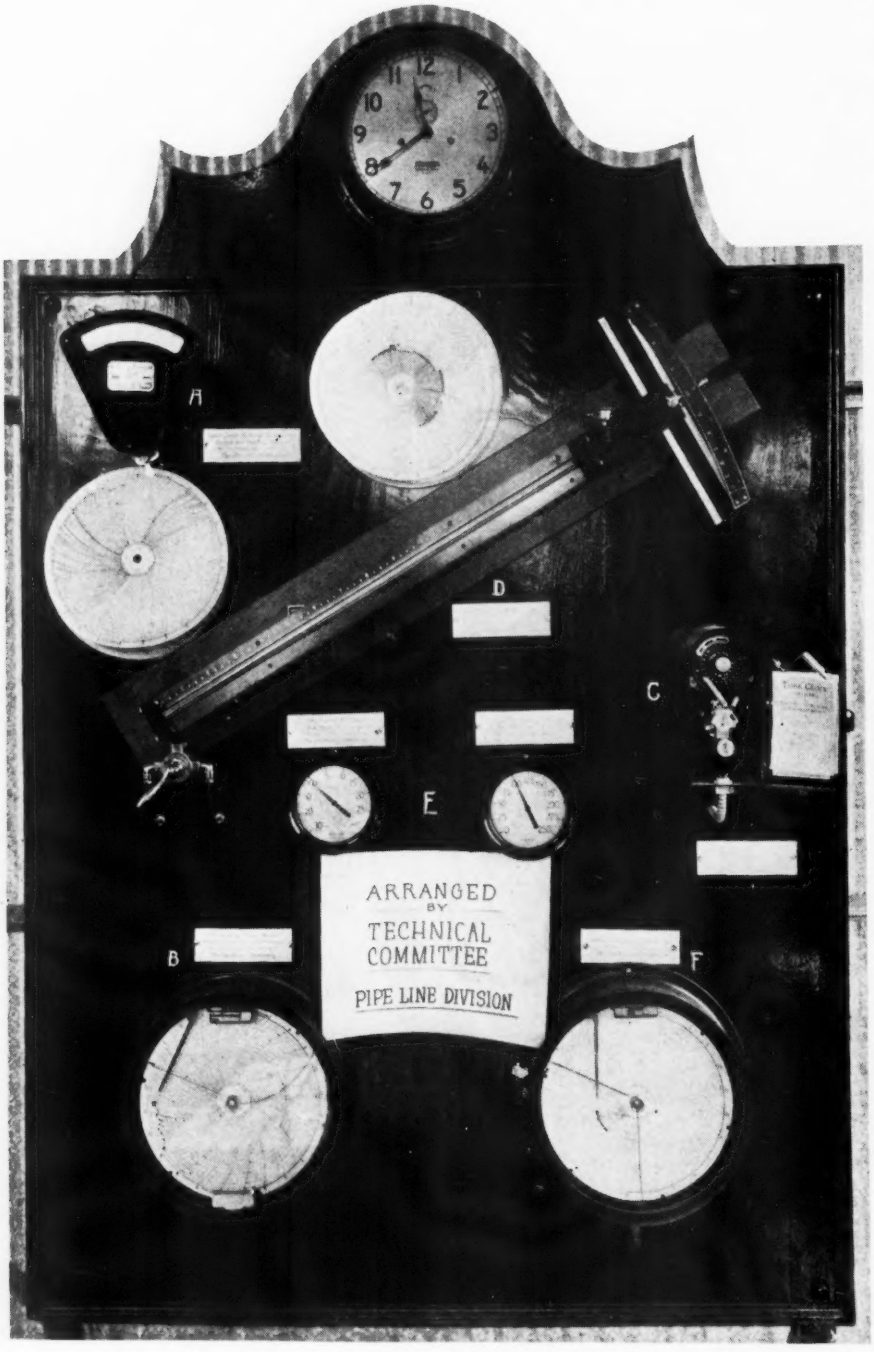
Main Office and Plant:
HOUSTON,
TEXAS

Export Office:
Woolworth Bldg.
New York City

Automatically Controlled Station May Eliminate Pumper

By William F. Lowe
N. P. N. STAFF WRITER

ONE of the most interesting exhibits at the recent Petroleum Exposition in Tulsa, was the demonstration of an automatically controlled and operated field pump station. The exhibit was sponsored by the Scientific and Technical Committee of the exposition and attracted more than the usual amount of attention. Aside from the inherent interest of the idea presented, much of the success of the display was due to the cooperation of the companies and individuals who made it possible.



Control panel No. 1 "A," liquid level control, "B," recording flow meter which can be used as gauge of oil run; "C," tork clock for setting time of operations as needed; "D," pneumercator or visual gauge of oil in working tank; "E," vacuum and pressure gauges; "F," pressure recording gauge

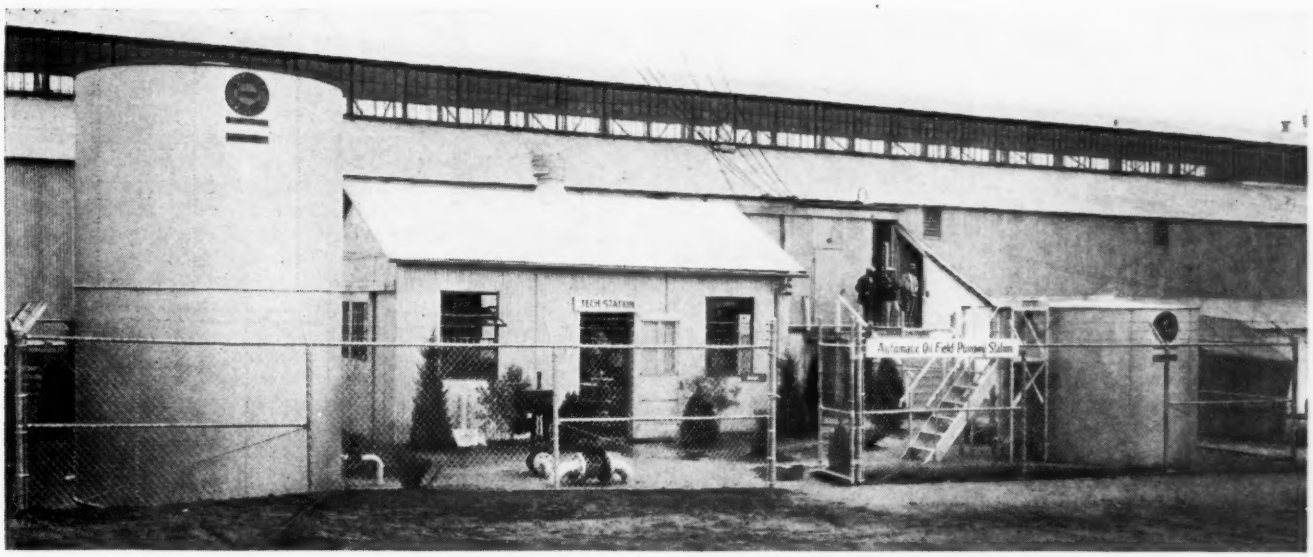
The purpose of the exhibit was to demonstrate the feasibility of such a system and to illustrate certain economies to be effected by its use. The automatic devices almost entirely eliminate the human element from the field pump station, which considerably simplifies the present gathering practice. Once in operation it is fool proof and protected even against itself.

Stated simply, the idea is to cause working tanks at the pump station to be automatically emptied as soon as they are filled with oil coming from the nearby leases. The oil is pumped, by the same process, on to a refinery or to storage on a tank farm. The mechanics of the operation are electrically controlled and accurately gauged, with an alarm system connected to the house of the engineer in charge of the station.

Referring to the illustration of the exterior of the pump station exhibit, the short tank on the right represents the working tank at a gathering station in the field. The tall "250" takes the place of a storage tank. Pipe line connections between the two are of standard type except that the discharge line has an automatically controlled gate valve, an orifice meter, and a pressure gauge.

A liquid level gauge is placed in the working tank, and when oil coming in from leases raises the fluid level to a predetermined point, an electrical connection is made through the medium of a pressure controller. (See panel No. 1"A"). The electrical connection made by this instrument, closes the circuit to the motor which opens the gate valve on the discharge line. When the gate reaches the wide open position it automatically shuts off its own motor and starts the larger one which operates the reciprocating pump. The oil is then pumped from the tank.

When the fluid level in this tank reaches a point low enough to again actuate the pressure controller, the



Exterior view of Automatic Field Pumping Station showing working tank on the right and the storage tank on the left. The electrically controlled gate valve is shown between the two

process is reversed. The valve on the discharge line starts to close, and in doing so, breaks the circuit to the motor on the pump, stopping the pump. The gate of the valve, in seating, again shuts off its own motor and the whole system awaits the refilling of the tank to repeat the process.

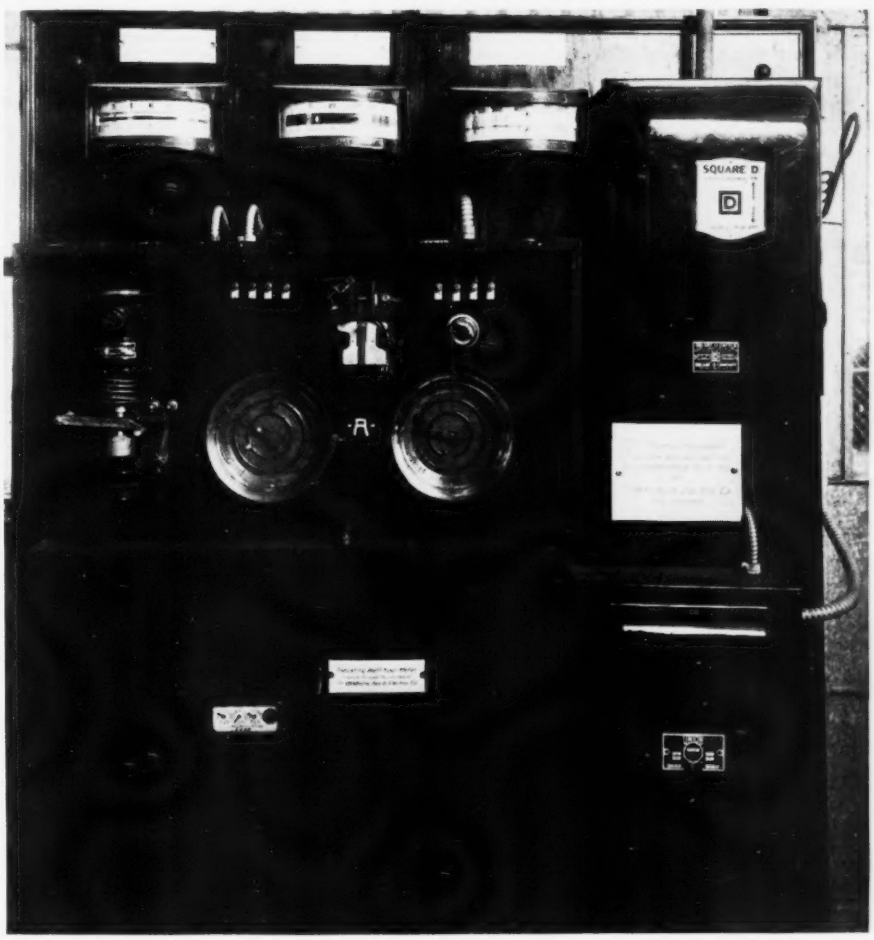
An accurate gauge of the oil passing through the discharge line may be taken by either an orifice meter or by the use of venturi meter in the line. Both can be made to register in barrels the amount pumped over any given period. Such a recording device is shown in the flow meter on panel No. 1 "B."

In the event of any trouble in the discharge line between the working tank and the storage tanks, the pressure gauge takes care of the emergency automatically. This gauge is connected directly with the "high and low" pressure equipment as shown on panel No. 2 at "A." Should the line become clogged while oil is being pumped, the increased pressure within the line causes the gauge needle to make an electrical contact actuating a circuit breaker. The pump stops immediately and the alarm starts ringing in the home of the engineer. It will continue to ring until stopped by hand in the station.

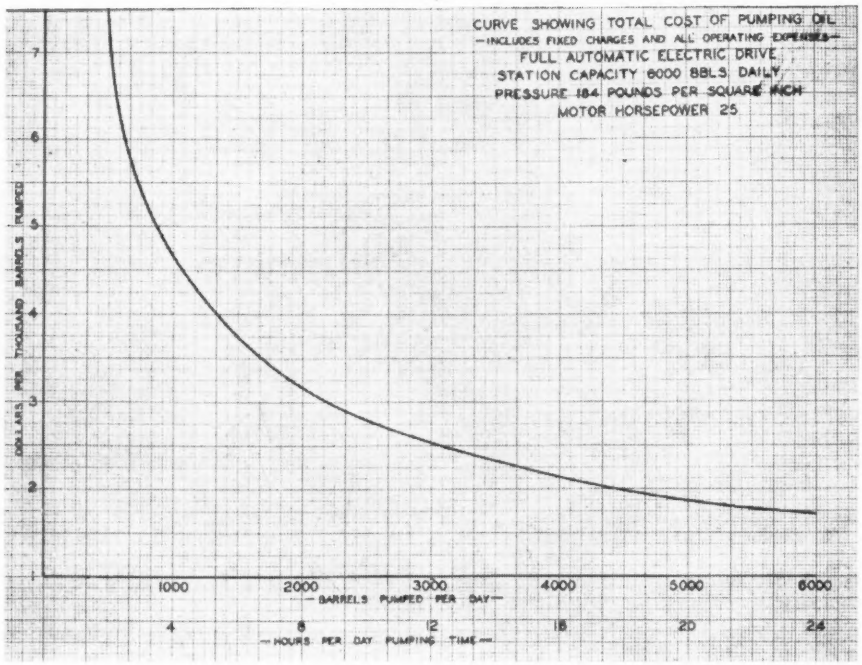
In the case of a broken line the procedure is the same, except that the contact is made through the lowered pressure within the discharge line.

These safety features have been in use for some time by pipe line companies, to protect their lines from bursting pressures, and themselves against the loss of oil due to a broken line from other causes. The Shaffer Oil & Refining Co., has installed several, in small stations, in the past nine months. However, the complete assembly as here given is thought to be new.

It is not at all necessary that the station be operative at all times except in the case of remote control. By the use of the Tork clock (panel No. 1 "C") it may be made to function at stated intervals or only between certain periods. With several installations in one large gathering system, an oil "switcher" could control the delivery of oil from any



Control Panel No. 2 "A," protective high and low pressure gauges and circuit breaker. The meters above are ammeter, wattmeter, and voltmeter indicators



station as needed by a system of buttons in his office.

The cost of installation is not high when an inventory of the equipment is taken. To build a station with a capacity of 6000 barrels per day, operating at a pressure of 184 pounds per square inch with a 25 H.P. motor, costs but $4341. This price, however does not include the purchase of land.

Operating costs on a station of this size are shown on the accompanying curve and in the following table:

	Monthly cost 24 hour daily oper.	Cost per thousand barrels
Fixed Charges ..	$ 54.30	$0.31
Electric Energy	251.25	1.39
Maintenance	2.08	.01
Miscellaneous	.83	
Total	$308.46	$1.71

As the exhibit now stands, and it is being left intact for further experiments, it is not as complete as the committee in charge would like it to be. W. G. Heltzel, engineer of the Sinclair Pipe Line Co., who has been the chief force behind the project, is hopeful of bringing about many improvements in operation. Actual field conditions are to be simulated, and various grades of crude tried out, in an effort to further prove the practicability of this type of station. For purposes of demonstration during the exposition, water was used in place of oil.

The following companies contributed not only the tangible things of the exhibit, but were also most liberal with valuable advice and the time of their personnel.

Petroleum Electric Co., Malony Tank Co., Braden Steel Co., Chapman Valve Co., Moorlane Co., Gaso Pump and Burner Co., Oklahoma Gas and Electric Co., Tulsa-Wichita Nurseries, Tulsa Fence and Post Co., Bristol Co., Foxboro Co., Pneumercator Co., Sinclair Pipe Line Co., Public Service Co. of Oklahoma, Wagner Electric Co., Western Supply Co., Tulsa Sheet Metal Co., Allis Chalmers Corp.

Integrator for Orifice Meters Invented

TULSA, Nov. 7.—Application for a patent on a new type of integrator for use with orifice meters has been filed by A. F. Wood of the Chestnut & Smith Corp., and Alexander B. Morris of the Forrest E. Gilmore Co. Mr. Morris formerly was with the C. & S. Corp.

The device is an attachment to the ordinary mercury pot and pressure spring as now used to actuate differential and static pressure gages, and is designed to give the readings in ordinary decimal notation, and without preliminary computation, of the actual volume of gas passed through the meter. The device can be reset for any change on meter coefficient made necessary by a change of plate, gravity, pressure base or flowing temperature, so that the customary arrangements in regard to these factors in the result can be observed.

For use in stations of sufficient importance to warrant the additional expense of securing the greatest accuracy, auxiliary instruments for registering temperature and gravity continuously may be attached, which permits the result to be continuously corrected for variations in these two constantly varying elements.

The general use of such a meter, it is claimed, will eliminate all chart expense and the meter would not require the daily visit of the meter reader. The meter reader's duties would be reduced to winding the clock and making a notation of the location, date and time and the total appearing on the meter counter. As this total is cumulative, an error made one day or month would be corrected the next. When this field record is received in the office it could go directly to the posting clerk, and if taken in duplicate one copy could be sent to the other party to the transaction for his records. The use of expensive charts would be eliminated with the consequent saving of chart readers, postage, and chart storage space.

A stamped record entirely free from possibility of possible errors may be obtained by placing type faces on the number wheels of the counter, setting up in type, close to the counter the complete description of the meter station, and passing a carbon ribbon over the whole table.

Oil Discovery Revealed Indian's Mentality

TULSA, Nov. 8.—"No explanation is offered as to why it took 22 years to discover her mental condition; the explanation may probably be found in the discovery of oil."

Thus concludes an opinion handed down by the U. S. Circuit Court of Appeals, 10th circuit, in a case where a valuable Seminole field lease was attacked because of the alleged mental incompetency of the original Indian allottee.

The 120 acres of land involved in the suit is in the SW quarter of 26-9-6, the original Seminole field. It was originally allotted to Fie Lewis, a Seminole woman. The late O. D. Strother bought 80 acres from her in 1905 and three years later bought the other 40 acres.

Oil was developed in October, 1926, and on March 7, 1927, a contract was filed of record between R. R. Youngblood and Ben July, guardians for the woman and J. E. Allen and J. H. Jarman, attorneys. By the terms of the contract the attorneys were to seek to recover the land for a fee of 50 per cent of the amount of the recovery.

The Magnolia Petroleum Co. and the Pure Oil Co., lessees, filed suit to quiet title. They won in the federal district court for the eastern district of Oklahoma and an appeal was taken. The higher court affirmed this decision.

In the lower court the oil companies claimed that Fie Lewis was legally competent at the time she sold the land to Strother; that certain judgments for the defendants in 1912 in action by the federal government against O. D. Strother and others constituted adjudication of the title. The defendants in the lower court asserted that the Lewis woman was mentally incompetent.

Scouts Study Geology of Arbuckles On First Annual Field Trip

By William F. Lowe
N. P. N. STAFF WRITER

TULSA

TO BE in the field with trained geologists when they reduce their professional jargon to fairly understandable terms, is a rare treat for other men of the oil fraternity. Anticlines, faults, contacts and dips, assume a more tangible form in the minds of those being lectured. One understands more readily how a geologist gets so much information out of well cuttings and why he wants more and better samples.

All this and considerably more was handed out in easily digestible doses at the first annual joint field trip of the Shawnee Geological Society and the Mid-Continent Scouts' and Landman's Association. The meeting was held in the Arbuckle Mountains, Oct. 25 and 26.

The party of nearly a hundred was made up of scouts, drilling superintendents, drillers, landmen and engineers. Leading the procession the first day was Oscar Hatcher, district geologist of the Gypsy Oil Co., in the Seminole area. He was assisted in explaining the various geologic features visited, by W. R. Gehring, district geologist of the Continental Oil Co., at Shawnee and Jack Copass, geologist of the Amerada Petroleum Corp., also of Shawnee.

The first trip out from headquarters at Sulphur, took the party up in the region of Turner Falls in the heart of the Arbuckles. The road winds over and through a veritable geologist's paradise. On every side, the out-cropping beds of the entire section of Oklahoma are standing almost on end. The geologic history of the country for millions of years is laid bare on the surface for the trained observer.

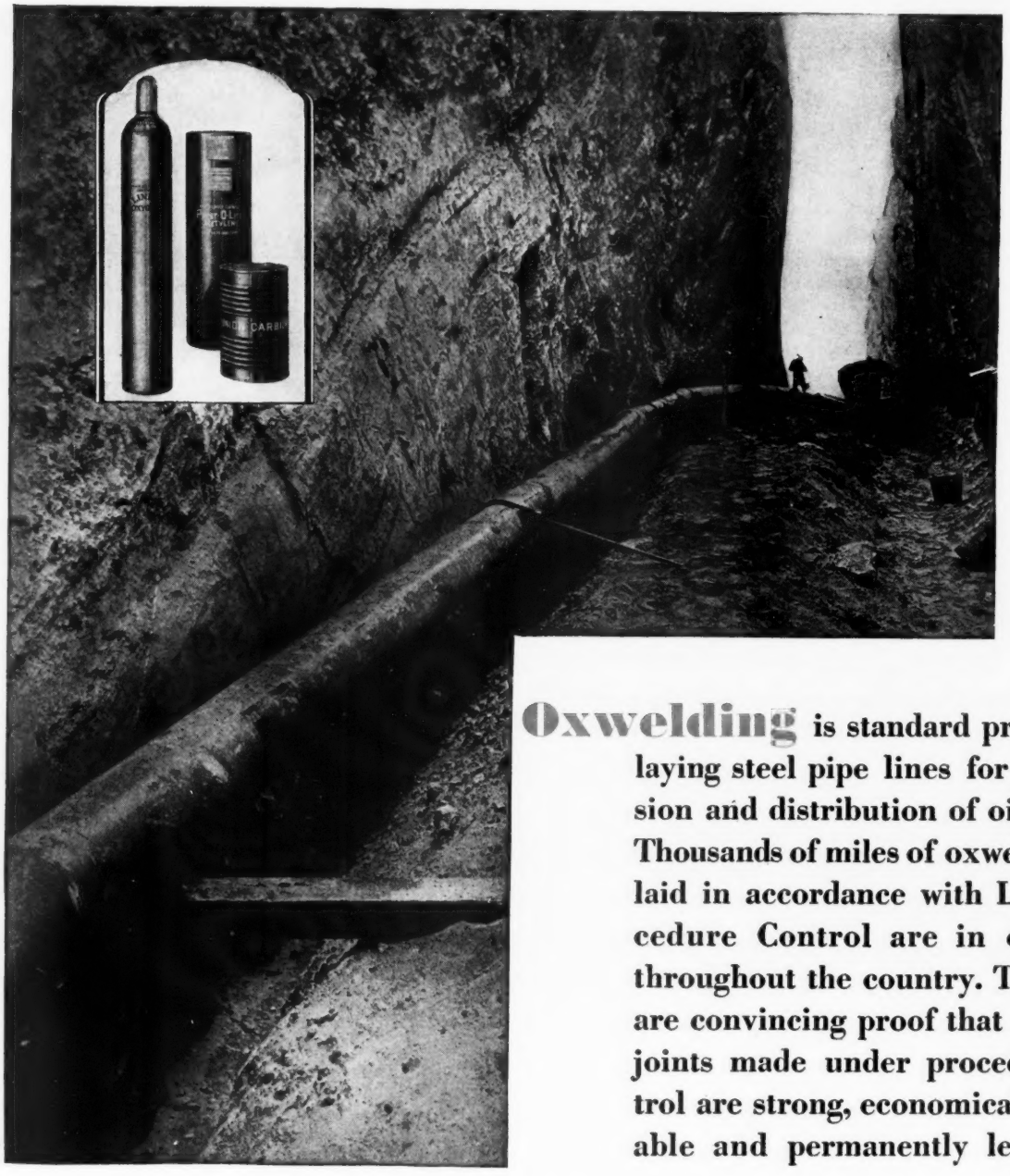
From the granite to the Caney shale, the upturned edges of the Arbuckle lime, the Wilcox sand, the Simpson, Viola, and Sylvan, all appear in regular order as they dip away from the granite core of the Arbuckles. Stops were made at the point of contact between each of the formations and the character of the beds studied in detail. Fossils were dug and the distinguishing features of the various strata were pointed out.

At the high point in the area, overlooking Turner Falls, Oscar Hatcher gave a very interesting lecture on the probable method of formation of the mountains. Every step of his talk was illustrated with concrete examples that were easily visible from where the party stood. The story told was literally the geologic history of the whole state of Oklahoma.

Evidence of this conclusion was noted in the informal talks, made by members of the party, at the banquet held Friday night in the

Part of the gang seated on a small local structure

Oxwelded Pipe Lines for Oil and Gas



Oxwelding is standard practice for laying steel pipe lines for transmission and distribution of oil and gas. Thousands of miles of oxwelded lines laid in accordance with Linde Procedure Control are in operation throughout the country. These lines are convincing proof that oxwelded joints made under procedure control are strong, economical, dependable and permanently leak-proof.

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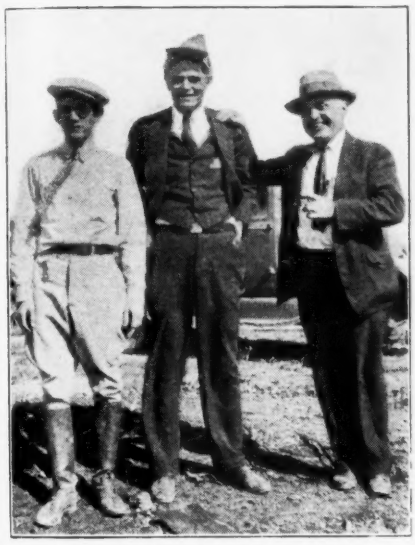
Artesia hotel at Sulphur. Among those who expressed this idea and stressed the value of field trips of this nature were Larry Bowman, production superintendent of the Carter Oil Co., Carl Cummings, production superintendent of the Gypsy Oil Co., J. E. Steele, petroleum engineer, also of the Gypsy, G. M. Gillespie, drilling contractor of Holdenville, and A. W. Lindly, production superintendent of the Healdton Oil & Gas Co.

Speaking for the scouts were "Cliff" Savage and "Jimmie" O'Donnell, of the Carter Oil Co. They beat Chester Kimball, scout representative of the Prairie and M. L. McGee, of the Sinclair, to the stock wise cracks by being at the head of the list. All, however, were serious in their statements concerning the benefit to be derived from field contacts with the geologist.

Clifford W. Byron, consulting geologist of Shawnee, Oklahoma, was the leader of the pack on Saturday. The party left the hotel at 7 a.m., which implies a rising hour that is early in any language. Some of the boys were up anyway. The town wasn't named Sulphur for nothing.



Three "good scouts." C. F. Kimball, Prairie Oil & Gas Co.; G. E. Savage and J. N. O'Donnell, Carter Oil Co.

Large individual structures and spectacular geologic features were studied on this second excursion into the mountains. Stops were made at the asphalt mine in the Simpson and Viola formations, near Daugherty, at the rock quarries in the Arbuckle limestone, and to study the formation of the Daugherty anticline.

In leaving the quarry, the party was split, as some scouts got a bad hunch at the crossroads. While awaiting the return of the leaders, the tail end had an opportunity to dig fossils at White Mound, one of the most famous fossil collecting grounds in the state. It is in the Haragan marl of the Hunton lime.

Meanwhile, the other half of the party was viewing Burning Mountain, a formation in the Woodford chert. Its name comes from the occasional haziness of the atmosphere near it, caused by the oxidation of certain minerals found in the cliff.

The climax of the trip came at about two o'clock the same afternoon when the top of Scott's Dome was reached. At the summer home of the late W. J. Scott a barbecue dinner was served. At this point the scout met the geologist on common ground and it was every man for himself.

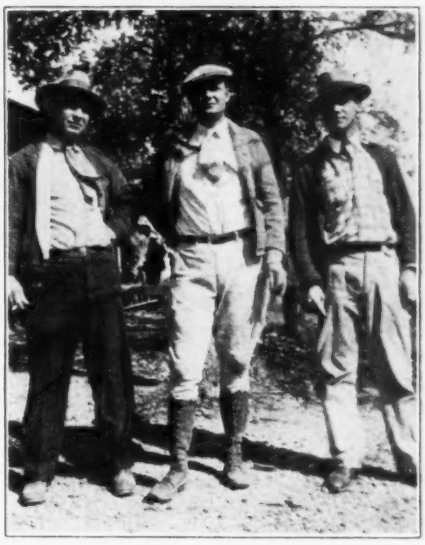
Oscar Hatcher, district geologist of the Gypsy Oil Co. at Seminole, who led the party on the first day

Jack M. Copass, Amerada Petroleum Corp. geologist, who dug up lots of good information

W. B. Weeks, C. R. Niel, and E. E. Reigle, scouts respectively for W. H. Atkinson at Oklahoma City, Superior Oil Corp., at Shawnee, and Indian Territory Illuminating Oil Co. at Holdenville, did nobly by the beef. Any two of the geologists however, would have had them bested, with A. G. Hooper of the Carter and J. H. Hengst of the Skelly setting the pace.

After the fingers had all been licked, a visit was made to the asphalt well not far from the house. Here the crowd gathered some new ideas about production.

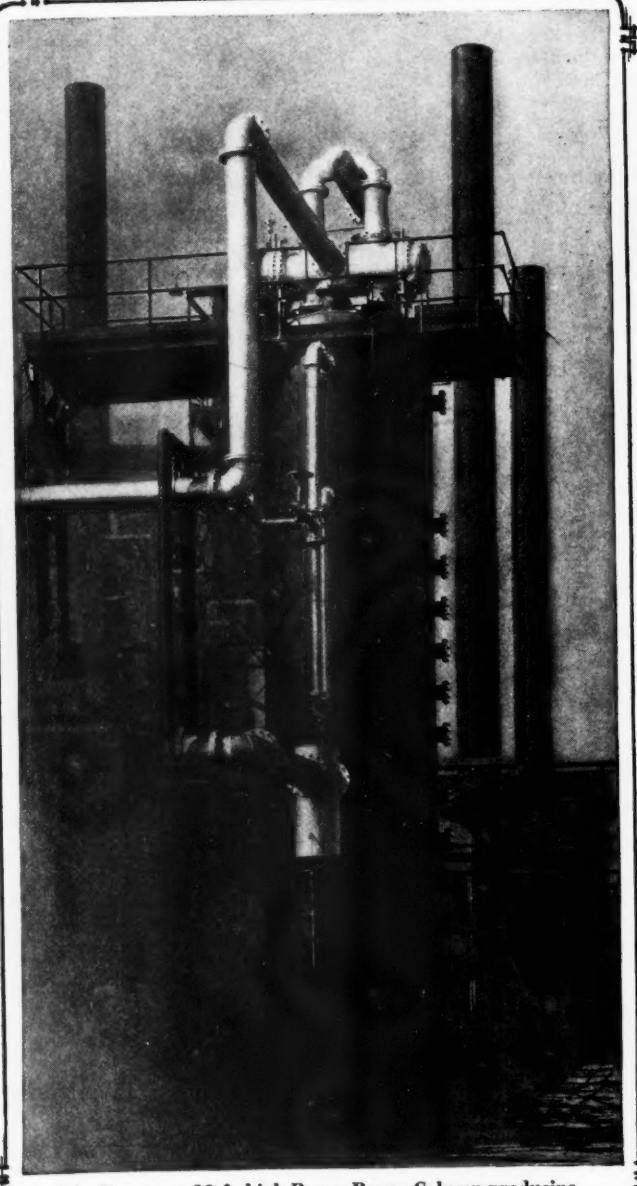
The well is about 1300 feet deep and produces a heavy tar-like fluid having a gravity of 10 degrees A.P.I. The oil stands about 1200 feet in the hole and has to be steam treated both before and after it is taken from the well. Used for repairing pavements, as wood preserver and as an insulation for pipelines it commands a price of $27 per barrel.



George M. Tyler, independent operator; C. W. Byron, consulting geologist, Shawnee; and H. D. (Deep) Henderson, Skelly Oil Co. scout

The mention of this figure obtained for the well the respect of every man in the crowd, until the bailer was pulled. One look at the stuff it contained, and a few minutes of watching the smeary methods of handling it, sufficed to make the opinion unanimous that the producer was underpaid.

To C. W. (Mike) Michaels, scout for the Shaffer Oil & Refining Co., in the Okmulgee district, must go a large amount of the credit for the promotion of the idea of the trip. Working with him and with the other leaders of the expedition mentioned above, R. C. Quiett, geologist of the I.T.I.O. at Seminole, aided in completing the details. All of these men are to be congratulated. Further result of their efforts will probably be seen next year when every oil company in the state is represented.



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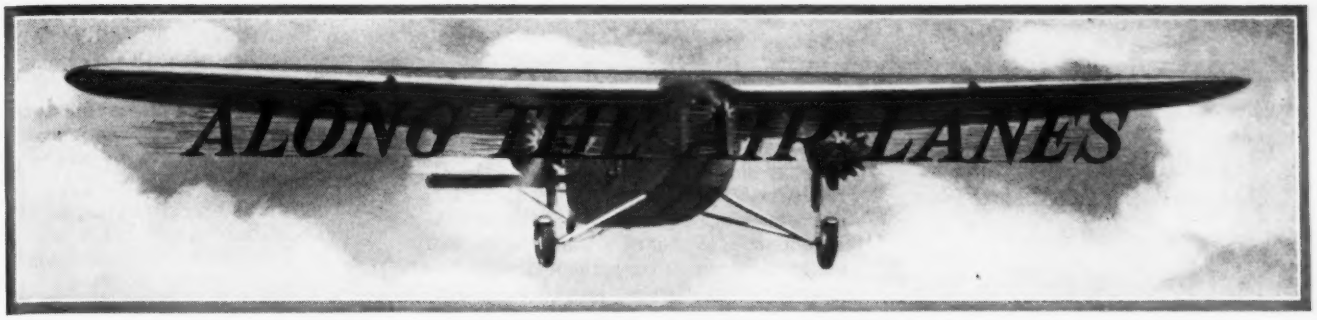


The slotted wing invented by F. Handley-Page, London, as a safety device for airplanes, is being applied to practically all airplanes to be used for military service in England, following purchase of that invention by the British Government for some half million dollars recently.

A plane equipped with this device in its automatic form will not stall nor go into a spin when it loses momentum, according to reports.

Recently, upon the visit of Mr. Handley-Page to this country, a luncheon was arranged for him at India House, New York, by the Stanavo Specification Board, Inc., which oversees the production and marketing of Stanavo, the new aviation motor oil of the Standard Oil Companies of New Jersey, Indiana and California.

Frank E. Powell, president of the Anglo-American Oil Co., London, and James Hamilton, director, acted as hosts at the luncheon. Both are in the United States on a brief visit.

Five aviation salesmen, headed by J. H. Allison, are exclusively selling aviation products to airports for the Standard Oil Co. of Ohio, Cleveland. All of them have been many years in sales work with the Standard, except Wallace B. Ferrier, who, however, has had experience in flying. He was with the British Royal Flying Corps during the World war, and as bombing officer with a Canadian Division, won a Victory Medal, a Selected Service Medal and was cited for bravery.

The other aviation salesmen and the divisions out of which they work are: Erwin J. Burkhardt, Cincinnati division; John B. Wisher, Columbus; and George W. Lumm, Toledo. Mr. Ferrier is in the Cleveland division.

Mr. Allison has made a special study of lubrication needs of internal combustion engines and has been with the company since 1915.

A primer on aviation, known as the "ABC Book of Flying" has been published by the Standard Oil Co. of Ohio as part of its campaign to promote aviation. The booklet is intended for the lay man. It is plainly illustrating and naming all airplane parts. It shows by diagrams how a plane is flown and why it flies. It tells what the various markings on an airplane mean.

Thirty-three minutes from the 33rd street Post Office in New York City, is this hangar of the Standard Oil Co., of New Jersey, located at the Newark Airport, Newark, N. J. It was the first privately owned hangar erected at the field.

The structure at the side of the hangar serves as an office and parts storage. Within the hangar can be seen the company's Lockheed-Vago cabin monoplane. In the background is one of the hangars owned by the airport.

The field on which the building is erected is probably one of the most notable in the United States, as it is the northern terminus for ail mail coming to New York. All air mail addressed to the metropolis is handled there.

With the establishment of this airport, the mail terminus was moved from Hadley Feld, New Brunswick, N. J., thereby saving half an hour in the delivery of mail. Pitcairn, Pa., mail is also handled there, but it is "shuttled" across to Hadley Field by air.

The great saving in time in airplane travel never fails to impress purchasers who have put planes into use for company business.

One of the recent purchasers of a Stearman biplane is the Champlin Refining Co., Enid, Okla. That company is pleased with the speed with which company officials can travel to far-off points in its territory to attend to business.

One of the first officials to use this plane for business was Eb Wilmoth of the pipe line department, who flew to Seminole from Enid, an all-day trip by motor car. The one-way trip was made in exactly one hour by plane.

A. H. Holland, manager of the station sales department, flew to Norman, Okla., on business, and then arrived in Enid in time for the plane to pick up Mr. Snyder, vice president in charge of sales. Mr. Snyder wanted to be in Ashland, Kan. quickly, and another four or five hour motor car trip was made by the plane in an hour and a half.

Others who have used the plane recently are E. J. Slater, refinery superintendent, who was in a hurry to get to Coffeyville, Kan., and H. H. Champlin, president.

Joe Champlin purchased the plane and is acting as pilot.

A twice-daily air service between San Angelo and Dallas, via Fort Worth, has been established by the Cromwell Air Lines, Inc., which began operation Nov. 1. Three planes are to be used by the corporation, which is headed by Carl G. Cromwell, San Angelo drilling contractor and oil operator, as president.

J. M. Dullahan of San Angelo is vice president, and Mrs. Luella L. Cromwell, secretary. D. D. Meyers of San Angelo is traffic manager. Gordon S. Darnell is chief pilot and B. L. Holstegge his assistant.

Letters to the Editor

Aircraft Lubrication Charts

EDITOR, NATIONAL PETROLEUM NEWS

Sir:

I always read your paper with very much interest, and therefore for your information I am drawing your attention to an error made by Mr. Paul Truesdell, in his article in Issue No. 35, of Aug. 28.

This company has for some years issued a chart of recommendations for the lubrication of aircraft engines, and therefore the statement of your writer that the Stanavo Specification Board have now prepared "what is probably the first chart of recommendations for the lubrication of aircraft engines which was ever published" is misleading.

This company has a long list of FIRSTS to its credit. We mention a few: The first East to West non-stop Atlantic flight by Sir John Alcock and Sir Arthur Whitten Brown in June, 1919; the first airship to cross the Atlantic and back (the British R-34) in 1919; the first non-stop flight across the South Atlantic by Costes and Lebrix in October, 1927; the first solo and light airplane flight from England to Australia, by the Australian, Bert Hinkler, in March, 1928; the first airplane to the North Pole region by Amundsen; the first airplane to the South Pole region by Sir Ernest Shackleton; the first airplane used in army maneuvers in November, 1910; the first motor car to establish a world's land speed record over 200 miles per hour, and every world's land speed record to date; the first non-stop flight from Rome to Brazil (4321 miles) by Ferrarin and Del Prete, July, 1928; the first man to reach the height of 12,739 meters (Herr Willi Neuenhofen, German aviator)—and these were all made on standard grades of Wakefield "CASTROL" Motor Oil.

Perhaps you will excuse my verbosity, but this letter is dictated solely with the desire of pointing out that, although our product is not being marketed in the United States of America, it is famous all over the British Empire, Europe, Asia, Africa, and incidentally in this Dominion across the border. It has many pioneer efforts to its credit, including the appreciation of specializing in lubrication on the land, on the water and in the air.

Yours very faithfully,
Signed—C. D. Browne,
C. C. Wakefield & Co., Ltd.,
Toronto, Ont.

EDITOR, NATIONAL PETROLEUM NEWS,

Sir:

We have noted with considerable interest the article appearing in your August 28th issue, page 35, vol. 21, and written by your Mr. Paul Truesdell, making reference to the establishment of a board of six men, two of each representing respectively the Standard Oil Companies of New Jersey, Indiana and California, for the purpose of offering lubrication to the flying world.

Your article in the fourth paragraph is quoted from as follows:

"The board also has prepared what is probably the first chart of recommendations for the lubrication of aircraft engines that was ever published."

We have probably been remiss in not making your staff familiar with our work in connection with aircraft engine lubrication charts.

The Vacuum Oil Company were the first to publish a lubrication recommendation chart in the year 1905 for automobiles, were the first to publish a tractor chart and the first to publish a complete chart to be displayed by dealers, including passenger cars, commercial vehicles, motor trucks, motor buses, motorcycles, and also a lubrication chart for aircraft engines, the first of which was published two years ago, and a number of additions since then, ending with a chart, copy attached, published May 1, 1929.

(Signed) VACUUM OIL COMPANY
F. B. Killian
Chief, Engineering Division

Dear Editor:

I want to compliment you on your article in the Editorial Viewpoint page, under caption "Keeping the Market in the Rough." We are meeting with all kinds of different interpretations on this, and we certainly believe that the ruling of the commercial account is very much in the rough. Commercial accounts are being extended to any Tom, Dick or Harry who wants to buy gasoline and knows how to go about getting it. A corporation, or any business, can get commercial accounts and commercial concerns, whether they be a partnership or corporation or what not, are being issued complimentary cards for any of their employees. Anything to muddy the waters and not know where in the world we stand. It is just like you say in your editorial, that the price of the small distributor, or even the individual service station owner, is going to be cut to everybody, so as to be sure he takes in the commercial accounts.

Then talk about ethics in our business; why if John Smith comes in as a cash customer does he have to pay 2c per gallon more than John Smith who comes in for credit, and knows the ropes. In other words, we are putting a premium on cash business that is the best.

I think your attitude is most timely and more such editorials should be written, and written with gloves off, calling a spade a spade.

Yours for GOOD ROADS,
T. Wilbur Thornhill,
President Charleston Oil Co.

New Patents

Prepared by R. E. Burnham, patent and trade-mark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

October 22, 1929

REFINING

Process for splitting hydrocarbons — Otto Schmidt, Otto Grosskinsky, and George Niemann, Ludwigshafen-on-the-Rhine, Germany. Filed May 31, 1927. No. 1,732,381.

Means for decolorizing hydrocarbon oils—Frank Gardner, Dallas, Tex. Filed Jan. 10, 1927. No. 1,732,465.

Apparatus for cracking oils—Sigbert Seelig, Berlin, Germany. Filed Dec. 29, 1926. No. 1,732,664.

Method of heat treating hydrocarbon oil—Edward C. D'Yarmett, Kansas City, Mo., assignor to Fractionator Co., same place. Filed Nov. 3, 1928. No. 1,732,805.

PRODUCTION

Method of and apparatus for separating ground water from petroleum—Elmer F. Cantrall, Barnsdall, Okla., assignor to Empire Oil & Refining Co., Dover, Del. Filed Apr. 2, 1924. No. 1,732,222.

Power-driven slush-pump—John A. Young, Torrance, Cal., assignor to National Supply Co., Toledo, Ohio. Filed Apr. 20, 1928. No. 1,732,424.

Tubing and rod machine—Ernest A. Gosnell, Wichita Falls, Tex., assignor to Panhandle Steel Products Co., same place. Filed Sept. 16, 1927. No. 1,732,466.

Pump-jack—Clayton L. Kenyon, Minneapolis, Minn., assignor to Kenyon Mfg. Co., same place. Filed Oct. 5, 1925. No. 1,732,475.

Sucker-rod hanger—Oscar B. Lyon, Holtville, Cal. Filed Apr. 15, 1925. No. 1,732,480.

Apparatus for separating gas from oil and water—Victor F. Chancellor and Sebastian L. Calvert, Bristow, Okla. Filed Jan. 5, 1926. No. 1,732,499.

Apparatus for raising fluids from oil-wells—Luther M. Robinson, Blackwell, Okla. Filed June 13, 1927. No. 1,732,617.

Well cementing—Erd V. Crowell, Los Angeles, Cal. Filed July 7, 1926. No. 1,732,791.

Fishing-tool—Charles A. Brust, Jr., El Dorado, Ark. Filed Mar. 31, 1927. No. 1,732,962.

Tubing-spider—Ellis Green, Tulsa, Okla. Filed Sept. 21, 1928. No. 1,733,010.

MISCELLANEOUS

Production of hydrocarbons from oil shale—August P. Bjerregaard, Okmulgee, Okla., assignor to Doherty Research Co., New York, N. Y. Filed Nov. 18, 1924. No. 1,732,219.

Dispensing apparatus—Harry D. Smith, East St. Louis, Ill., and Willard D. Smith, Maplewood, Mo., assignors to St. Louis Pump & Equipment Co., St. Louis, Mo. Filed Dec. 29, 1924. No. 1,732,543.

Liquid dispensing and recording apparatus—Ben F. Hardesty, New York, N. Y., assignor to National Gas Register Pump Co., same place. Filed Apr. 6, 1925. No. 1,732,599.

Lubricating oil — Daniel Stryker, Brooklyn, N. Y., assignor to Texas Co., New York, N. Y. Filed Mar. 23, 1925. No. 1,732,780.

Testing-machine for lubricants—Howard G. Hill, Roanoke, Va., assignor to Texas Co., New York, N. Y. Filed Nov. 26, 1924. No. 1,732,811.

Separation of alcohols from polymers—Robert M. Isham, Okmulgee, Okla., assignor to Doherty Research Co., New York, N. Y. Filed Mar. 26, 1926. No. 1,732,894.

Separation of heavy alcohols from polymers—Sylvan R. Merley, Dover, N. J., assignor to Doherty Research Co., New York, N. Y. Filed Mar. 26, 1926. No. 1,732,903.

Arc Welding Replaces Screwed Fittings In Much Refinery Equipment

By C. M. Taylor*

THE oil industry is noted for its progressiveness, especially in the adoption of new and better methods of refining. In recent years there have been many changes in the processes and methods of refining oil.

These changes have necessitated the scrapping or rebuilding of costly equipment and installation of much new equipment. Eager to make the new their own, many refineries have turned to the arc welder as the modern tool to effect these changes in equipment most economically and quickly.

It is in these refineries that the cost of new construction and maintenance of the old has reached a new low level. Those who have utilized the possibilities of arc welding to the fullest extent have profited most.

It is in these progressive refineries that you will find the smallest scrap piles, for arc welding has salvaged most equipment which was thought to be beyond repair or conversion to other uses. Stills, condensers, agitators, purifiers, towers, and many other pieces of equipment, all have been fabricated by the electric arc welding process.

Great economies have been effected in tank construction. To prove this one prominent refinery constructed two gasoline storage tanks of identical size and capacity and of the same thickness of plate. One tank was completely arc welded, the other constructed by riveting.

These tanks were 10 feet high and 48 feet in diameter, each having a capacity of 2900 barrels. After the tanks were completed, the arc welded tank was proven by test to be absolutely gas tight.

The cost of labor and welding material in the construction of the arc welded tank was $700. The labor and rivets in the riveted tank cost $1100, or $400 more than arc welded construction. In this application, it was proven by actual construction that arc welding effected a saving of more than 36 per cent.

The capacity of the tank being only 2900 barrels and the saving effected by welding being $400, the saving per barrel based on the capacity of the tank was approximately $0.14.

The advantages of the electric arc welding method of construction of tanks over riveted construction are:

1—Arc welded tanks cost less to build. Also two welders can complete the same number of linear feet of seam as would be completed by one gang of riveters which consists of 5 men, namely, one rivet heater, one rivet passer, one bucker up, one riveter and one caulker. The labor required to set up the tanks ready for riveting or welding is approximately the same. A riveting gang, in order to work efficiently, must consist of the workmen enumerated, but one welder can work efficiently alone.

2—Arc welded tanks are gas tight, thereby there are no losses due to vapors escaping through leaks. This loss is sometimes considerable in the case of riveted tanks.

3—Arc welded construction also eliminates danger from fire due to the contents of the tank leaking out and being ignited.

The electric arc welding process has made it possible for refineries to salvage much of their worn out equipment and convert it into other forms of operating equipment. The conversion of a worn out high pressure cracking still into a horizontal heat exchanger provides an excellent example of salvage effected by the use of the electric arc.

The general arrangement and operation of this exchanger is similar to heat exchangers generally used in refineries, boiler houses, and other places where it is necessary to exchange heat between fluids and vapors, but the construction of this exchanger is radically different.

Fourteen feet of the length was removed with torches from a discarded high pressure cracking still, whose walls had become so thin as to necessitate removing it from the service in which it had been used. The head on the end of the section that was removed was cut down with torches so as to fit into the open end of the still.

Two manways made of 12-inch extra heavy pipe were inserted through holes cut out of the head, the ends of the pipes projecting inside the head about ½ inch, and these ends were welded to the inside of the head.

The pipes were welded to the outside of the head. The outer ends of these pipes had steel flanges welded thereto, these flanges being made of 1-inch boiler plate, and the outer faces of the flanges being beveled at the points where they were fitted around the pipes so as to provide a recess for welding.

These flanges were welded flush with the ends of the pipes. The backs of the flanges were then welded to the pipes. The faces of both flanges were then machined smooth and true.

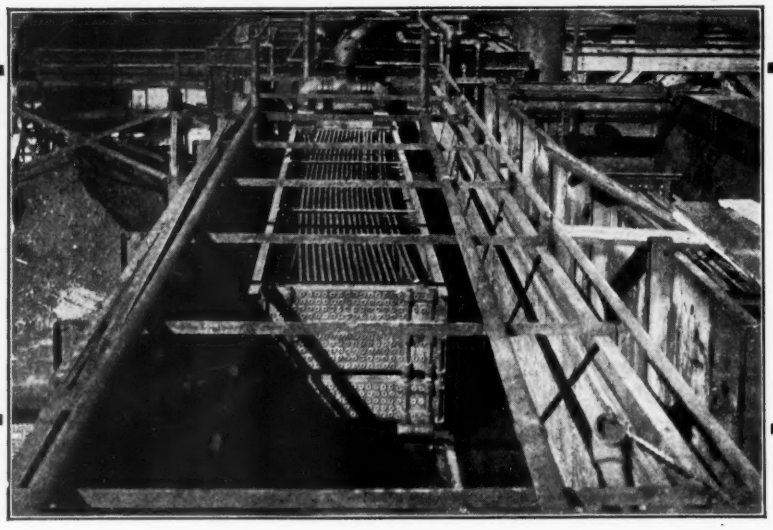
Two rings, five feet outside diameter, made of 2½-inch by 2½-inch by ¼-inch angle iron, were formed with their backs on the outside, and one of these rings was welded along the edge to the inside of the still.

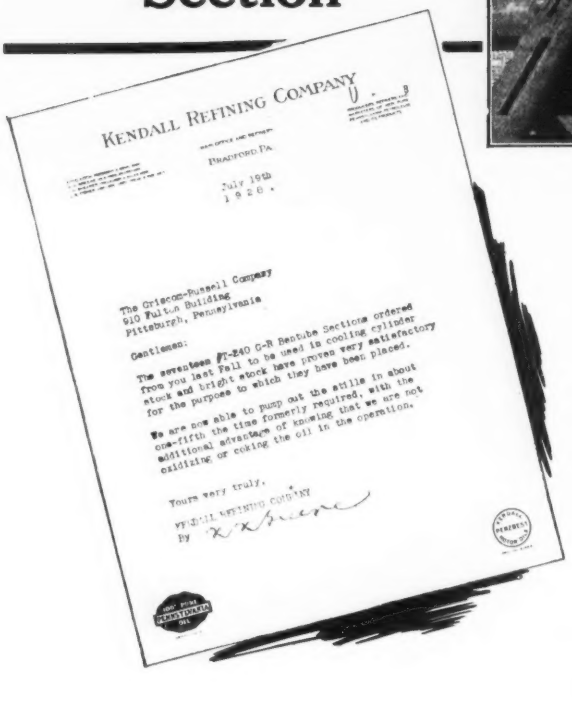
A tube sheet made of ½ inch boiler plate, and having 145 two and three-eighths-inch diameter holes drilled therein, was welded to the first mentioned angle ring.

*Vice president, Lincoln Electric Co.

Still repaired by arc welding

The G-R Submerged Type Bentube Section





KENDALL REFINING COMPANY

BRADFORD PA.

July 19th
1920.

The Griscom-Russell Company
910 Fulton Building
Pittsburgh, Pennsylvania

Gentlemen:

The seventeen (17) 240 G-R Bentube Sections ordered from you last Fall to be used in cooling cylinder stock and bright stock have proven very satisfactory for the purpose to which they have been placed.

We are now able to pump out the still in about one-fifth the time formerly required, with the additional advantage of knowing that we are not oxidizing or coking the oil in the operation.

Yours very truly,

KENDALL REFINING COMPANY
By

"Saves 4/5 of cooling time"

THE remarkable improvement in service effected by G-R Submerged Type Bentube Sections at the Kendall Refining Company's plant is typical of the results obtained wherever these Sections replace other apparatus in tanks for condensing vapors from oils or for cooling residual oil.

No matter how hard, salt or dirty the available water supply may be, the patent construction of the G-R Bentube Section prevents scale from building up to a thickness that would reduce the cooling effect below rating. During operation of the Sections, scale is automatically and continuously flaked off by the changes in temperature, and hand scaling is unnecessary even in severe service.

The Griscom-Russell Engineers will be glad to study your condensing and cooling processes without obligation to you and make recommendations for the application of G-R Submerged Bentube Sections with definite capacity guarantees which will enable you to make accurate comparison with the performance of your present apparatus.

PATENT NOTICE
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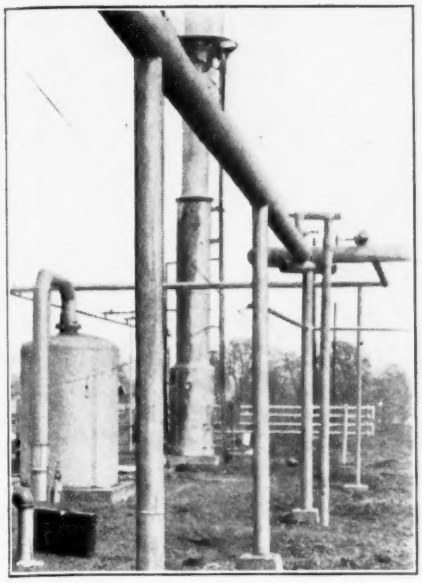
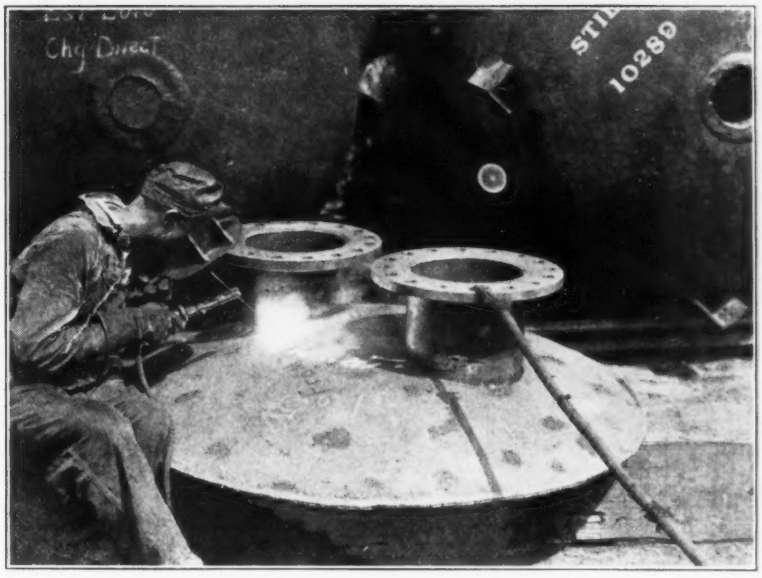
Heat Transfer Apparatus



Piping fabricated entirely by arc welding



Fabricating head of heat exchanger built from worn out still

Four baffle plates made of ⅜-inch boiler plate and having 2⅜-inch holes therein, were next welded at equal distances apart, to the inside of the still.

The second tube sheet was now inserted inside the still and the second angle iron ring was put into position, and its edge was welded to the inside of the still, after which the tube sheet was drawn back to place inside the ring and was welded thereto along the edge, the tube sheet being aligned with the holes in the baffle plates, and the tube sheet at the opposite end of the still by having the tubes inserted through their corresponding holes in the tube sheet.

All of the tubes, which were made of 2⅜-inch outside diameter tubing, were now inserted through the aligned holes of the tube sheets and baffle plates with their ends projecting ½ inch beyond the outside of the tube sheets, and were then welded.

A division plate, which was made of ½-inch boiler plate, was next welded along one side to the tube sheet and the ends of the adjoining tubes. The head in which the manway had been welded was now cut into two sections with torches, one section being inserted into place between the aforesaid division plate, and the upper half of the still, and the other section being inserted between the division plate and the lower half of the still, and when these sections had been assembled and tack-welded into place, a slot extended across the head between the sections in alignment with the division plate.

This slot was now welded up, so as to form a bond between the division plate and the two sections of the head. The outside edge of the head was now welded to the inside of the still.

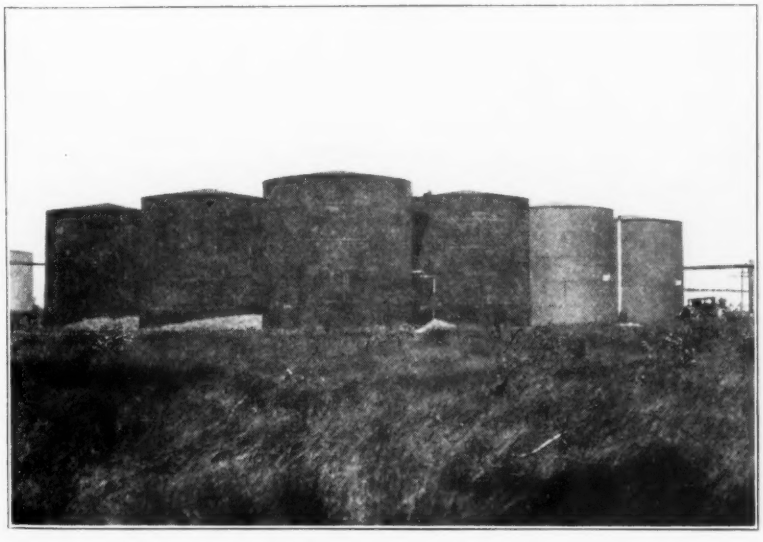
Six lugs which were forged from ¾-inch boiler plate were now welded to the outside of the still to serve as supports to the exchanger.

What is probably the most universal application of arc welding in refineries is in the construction of equipment composed chiefly of pipe or tubing such as coils, manifolds, headers, and hot oil lines.

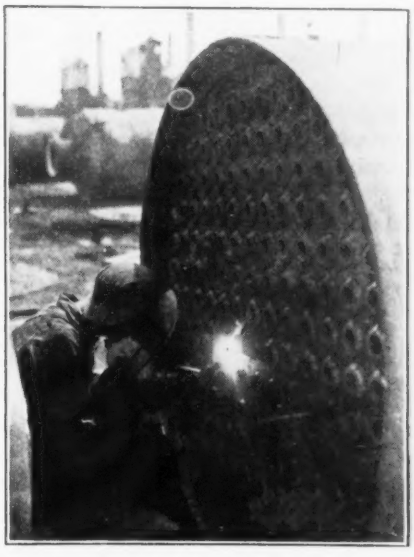
An example of this type of arc welded construction is the building of a coil for a high pressure cracking unit.

This cracking unit consists of 16 coils, the coils being arranged directly over each other with the tubes in staggered relation. The coils are connected so as to provide a continuous channel from the top coil to the bottom coil.

The coil is introduced into one of the headers in the top coil and flows back and forth through the tubes, finally passing out of the coil through the outlet and down to the next coil



Completely arc welded storage tanks in an Ohio refinery



Arc welding tubes into end plate of heat exchanger

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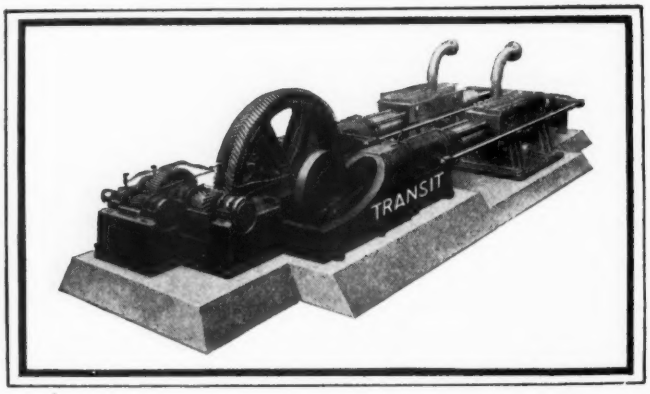

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below where a similar flow occurs, this process being repeated in each coil, until finally the oil passes out of the outlet of the lower coil.

It will be understood that the tubes connecting the headers of each coil extend through a furnace, with the headers on the outside thereof, which is fired to maintain the required temperature of the oil. The arc welded coil is similar in arrangement to those generally used for this purpose, but the construction of the coil is radically different.

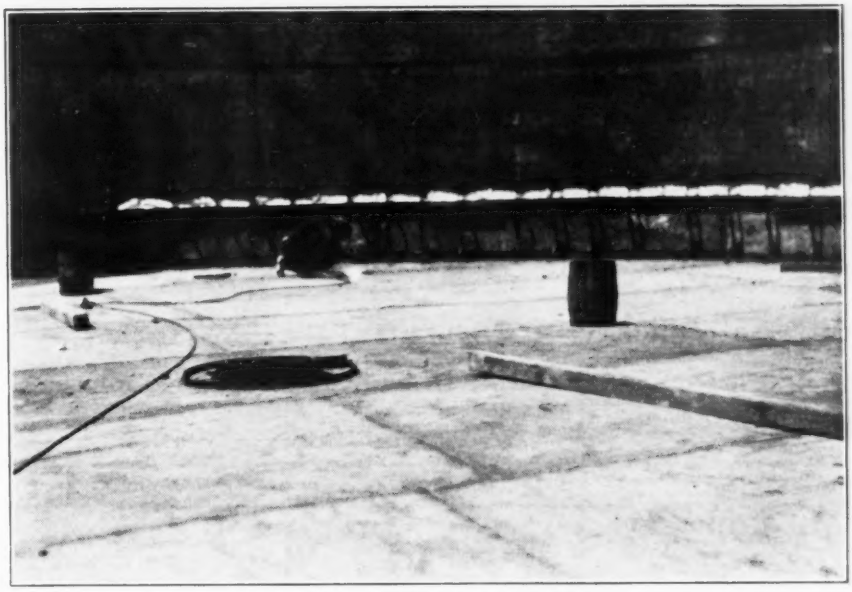
A three-hole header, which was made of 6⅝-inch outside diameter by 5¾-inch inside diameter seamless steel tubing, has in one end a 4-inch seamless steel tube, which serves as an inlet to the header.

The opposite end of the header was closed by having a ⅝-inch plate welded therein, said plate being set back from the end of the header about ½ inch. Three holes were drilled through one side of the header and through these holes, the ends of three of the tubes of the coil were inserted, the ends being milled off to a radius equal to the radius of the inside of the header, and located flush therewith.

Each of the tubes was then welded to the outside of the header.

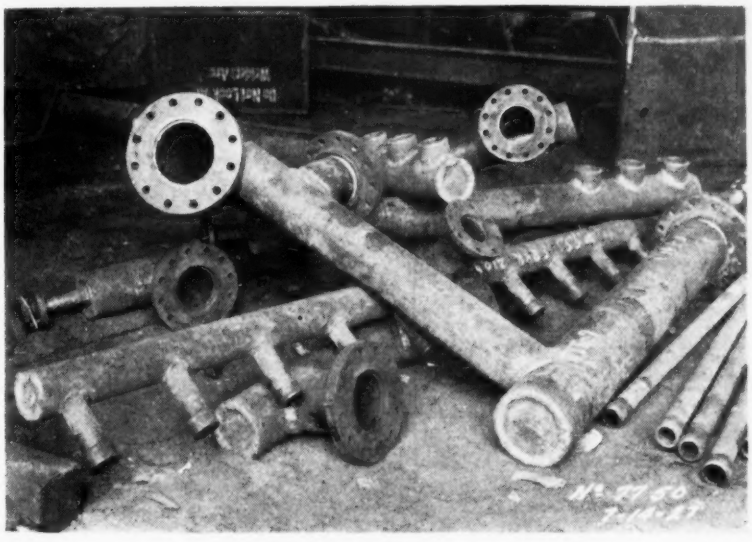
The opposite ends of the three tubes previously mentioned, were introduced, through holes drilled through the side of a six-hole header, the ends being milled, and then welded in place. This header was closed at each end by having a ⅝-inch plate welded therein, the plates being set back from the ends about ½ inch. The other three tubes which extended from the side of this header were treated in the same manner as those in the first mentioned header.

Five six-hole headers of similar arrangement to the one just described, were welded into place and the three outer tubes of the last six-hole header of the series were welded into a three-hole header at their opposite ends. A 4-inch outlet tube was welded into the outer end of this header. This outlet was connected into the inlet of the next coil below. A series of 16 coils were made in the same manner as the coil just described, and when assembled in operating position, were subjected to a cold water pressure test of 2000 pounds per square inch, and no leaks developed.



Arc welding tank floor

Arc welded coil for high pressure cracking unit

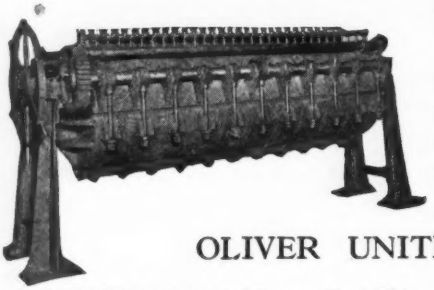


Pipe headers fabricated by arc welding

In the operation of one of these cracking units, the oil is forced through the coils at an approximate rate of 120 barrels per hour, at a pressure of 650 pounds per square inch, and at a temperature of 800 F. A temperature of 1500 F. is maintained in the furnace.

In constructing these cracking units, they have heretofore been made with a steel flange, screwed onto each end of each tube and semi-steel return bends having flanges to correspond with the flanges on the ends of the tubes, were bolted thereto, with gas-

They Ordered New Sweetlands



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kets between the return bends and the flanges to provide a leakproof joint.

During the operation of the units in which return bends and flanges were used, there was considerable loss from fires resulting from leaks which developed between the flanges and return bends, and around the threads of the flanges, which necessitated considerable loss of time in the operation of the unit, but in the units constructed by the electric arc welding method, there have been no losses from fires, and consequently no time has been lost in the operation of the units.

The examples of arc welded construction cited in this article by no means represent all the possible applications of arc welding in a refinery. However, they serve to indicate the possibilities this modern method of construction offers, its physical advantages and the economies effected through its use.

Refiners Undertake Fume Control

LOS ANGELES, Nov. 8.—Climaxing five years of agitation on the part of residents in cities of Long Beach, Wilmington and San Pedro, representatives of oil companies, operating cracking plants in these areas, have agreed to spare no cost in abating the obnoxious odors.

After threatened action by the district attorney to institute abatement proceedings against the refineries unless immediate action was taken, the oil companies met with public officials, including health officers for the county and Long Beach.

At the meeting it was decided to retain two nationally known experts on fume control, one each to be appointed by the county and state health boards. Representatives of the oil companies have agreed to abide by the orders of these experts and to install the required equipment regardless of cost.

The refineries located on main highways from Los Angeles to San Pedro harbor often emit fumes that are so strong that motorists driving past find difficulty in breathing. The conditions, however, have been greatly improved during the past few years and it is expected that once the odors from cracking plants are removed all objections to refineries will cease.

WASHINGTON—Crude oil imports into Curacao in June fell to 5,000,000 barrels, compared with 5,190,000 barrels in May. Gasoline imports increased from 47,500 barrels to 79,000 barrels in this period.

Importance of Carbon Residue Test Shown in Bus Fuel Experiment

By C. J. Livingstone* and W. A. Gruse*

(*Presented before Society of Automotive Engineers, Toronto, Nov. 12-15*)

IN THREE previous communications from this laboratory[1], the study of carbon deposits in automotive engines has been carried on with a view to establishing any possible connection between the properties of lubricating oils and the conduct of these oils in use, (particularly with regard to carbon deposits). The work has so far covered laboratory experiments with a small single cylinder engine under rigid control employing oils of medium and heavy to extra-heavy grades, the conditions being altered to stimulate those under which such oils would be used in actual service.

In general, this work has brought out two points; first, that the carbon-depositing tendencies of automobile oils can be predicted approximately from the carbon residue test of these oils; and the second, that carbon residue test is significant probably because it is a rough indication of the volatility, at flame temperatures, of the oils.

In an effort to confirm these conclusions by actual observations of road work the writers were faced with the necessity of finding an environment which would permit the operation of automotive equipment under the same uniform conditions as are possible in the laboratory. The only suitable equipment appeared to be a selected fleet of heavy duty vehicles operated continuously on schedule over the same territory and under heavy duty.

At the same time it was desirable to employ conditions not so artificially regular as to have no connection with actual service. These requirements seemed to be met by a fleet of motor coaches in actual commercial service, where schedules are maintained, where the weight of the vehicle is such that the engines are operated under full throttle most of the time, and where maintenance and care are closely supervised.

The requirements of such service would be such that while conditions are in general very uniform, the main consideration is that operation be continuous and schedules be maintained. Because of this any academic adherence to desirable conditions beyond what is necessary for satisfactory functioning, need not be feared.

[1] Ind. Eng. Chem., 18, 502 (1926); J. Soc. Automotive Engineers, 18, 607 (1926); J. Soc. Automotive Engineers, 20, 688 (1927).

For instance, carburetor adjustment would in general not be closer than is needed for flexibility and maximum power. At the same time any maladjustment beyond these limits would be quickly observed and corrected.

The facilities for carrying on this work were obtained through cooperation with the Pittsburgh Motor Coach Company, which placed at the disposal of the writers 18 sleeve valve engine coaches. The maintenance and supervision of these coaches was turned over completely to the writers with only the stipulation that the operating schedules of the company be maintained.

In general no deviation from the regular maintenance practice of the company was effected; but all the steps of maintenance and servicing were under the observation of the writers. This meant that the coaches went through the regular routine of supplying fuel and oil, inspection, clean-out, necessary repairs and road service in the presence of representatives of this laboratory, and all records were kept by them.

The keeping of complete records and the supplying of uniform fuel and oil were facilitated by the fact that all the coaches under test operated from one garage. The courtesy and cooperation shown by the officials and employees of the Pittsburgh Motor Coach Company were vital factors in the successful carrying on of this work, and the writers wish to take this opportunity of expressing their grateful acknowledgment.[2]

The 18 coaches were divided into three groups of six each and for each of these groups a different oil was used. The first was a paraffin base oil of normally high carbon residue, well refined and otherwise of high grade. The second was a paraffin base oil of extremely low carbon residue value and very drastically refined. The third was a typical naphthenic oil. All three oils were of the same grade so far as viscosity is concerned, this being of the order of 100 seconds Saybolt at 210 F. The significant properties of the oils are given in Table I.

The fuel used during the entire test was an average grade of motor gasoline; it was sampled and examined at frequent intervals and was found to be quite uniform. The coaches were operated for approximately 10,000 miles each. The work was carried on during the period of early July to early October. In general the weather was warm during this period and the service therefore quite severe. The severity is accentuated by the fact that the Pittsburgh territory is quite hilly and requires a considerable amount of second gear operation.

The results with regard to carbon deposition were interpreted from the standpoint of the rate of closure of the exhaust ports by coke-like material which builds across these openings, cutting down the power and gradually making operation impossible. The coach company's regular schedule of port inspections was followed and at each such inspection, which fell at intervals between 1500 and 3000 miles of operation, a diagrammatic sketch was made of each port, showing the area covered and the actual shape of the deposit in the port.

Each sketch was made on a prepared chart which was a projection of the sleeve ports on a horizontal plane. After this record had been made the decision of the coach company's maintenance staff was accepted as to whether port cleaning was necessary. In this way, if deposition was not

[2] Particular thanks are due to Messrs. T. F. Noonan, T. E. Alderdice, Jos. Harvey, and also for the active cooperation of Messrs. G. D. McKinney and J. Walsh.

*Mellon Institute of Industrial Research.

TABLE I

Oil	High Carbon paraffin oil	Low Carbon Paraffin oil	Naphthenic oil
Flash	480 F.	470 F.	500 F.
Fire	520 F.	535 F.	565 F.
Viscosity at 100 F.	1310	1360	2760
Viscosity at 210 F.	105	104	103
Pour	25	10	20
Color N. P. A.	4.5	1.5	8
Carbon residue	1.00	0.15	0.70

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serious the carbon was not disturbed, and in a number of cases ports went through the entire test without any removal of carbon whatever. In other cases, however, depending on the oil used, coaches were reported in by drivers for loss of power before the regular inspection period had been completed, this failure of power being due to excessive carbon deposit which required immediate removal.

The summarized data on total mileage covered, oil consumption, number of ports cleaned, and average of miles per port clean-out are given for the three groups of coaches, each on a different oil, in Table II.

In Figures 1, 2 and 3 are shown diagrammatically the history of each engine port throughout the test. Each figure represents a group of coaches on one oil, each set of lines represents a coach, each line a port, and each square a port clean-out. A triangle signifies one-half a port clean-out. Figure 1 refers to the paraffinic oil of high carbon residue, Figure 2 to the paraffinic oil of low carbon residue, Figure 3 to the naphthenic oil.

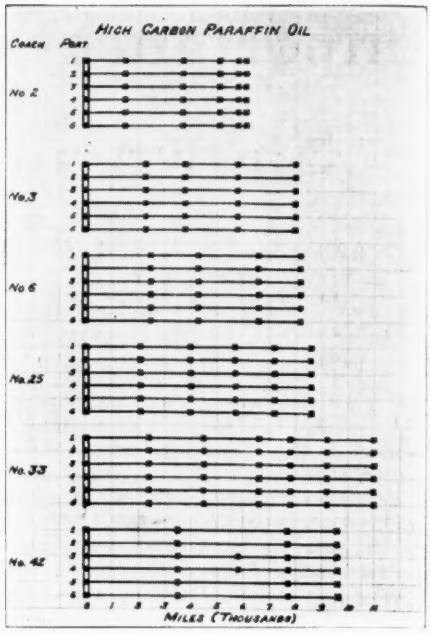

Fig. 1

Table III gives comparative figures for the amount of obstruction of each port at each inspection. These have been obtained by using a planimeter on the port diagrams reproduced in the appendix, the areas blocked off by carbon in all ports of each coach at coach inspections being added together to give a total carbon-area figure for that coach throughout the test.

This has then been expressed as the percentage of total available area which was covered by carbon throughout the test for that coach. After averaging for the six coaches in each group, the carbon area per coach per 10,000 miles traveled was calculated. This figure was converted into a percentage of the total port area per coach covered by carbon during 10,000 miles of operation. Obviously, the ports were cleaned when more than half of their port area was closed.

Table IV gives a summary of the results obtained from the small poppet valve engine tests made in the laboratory with the three oils used for the coaches. The results are expressed, as in previous papers from this laboratory, in terms of grams of carbon collected per litre of oil consumed; this index is called the carbon value. The carbon value for each experiment is given both wet and dry; that is, based on the carbon as scraped from the engine and as corrected for oil and ash content.

From Table II it will appear that the number of coaches and the time and distance of operation are sufficiently great to iron out the irregularities to be expected in operation of automotive equipment. The table

TABLE II

No. of Coaches	Total Miles	Oil consumed quarts	Ports Cleaned	Av. miles per gal. oil	Av. miles per port cleanout
		High Carbon Paraffinic Oil			
6	51,506	2,178	164	94.6	314.0
		Low Carbon Paraffinic Oil			
6	60,540	2,197	151	110.0	401.0
		Naphthenic Oil			
6	59,030	2,401	38	98.5	1556.0

TABLE III

No. of Coaches	Total area of carbon in sq. in.	% of port area covered	Area of carbon per coach per 10,000 mi. in sq. in.	% of port area closed with carbon in 10,000 mi.
		High Carbon Paraffinic Oil		
6	183.84	.....	35.7	324
Average	30.64	59.0	.....	.....
		Low Carbon Paraffinic Oil		
6	176.88	55.0	29.2	266
Average	29.46	.....	.....	.....
		Naphthenic Oil		
6	69.43	.....	11.8	107
Average	11.57	22.5	.....	.....

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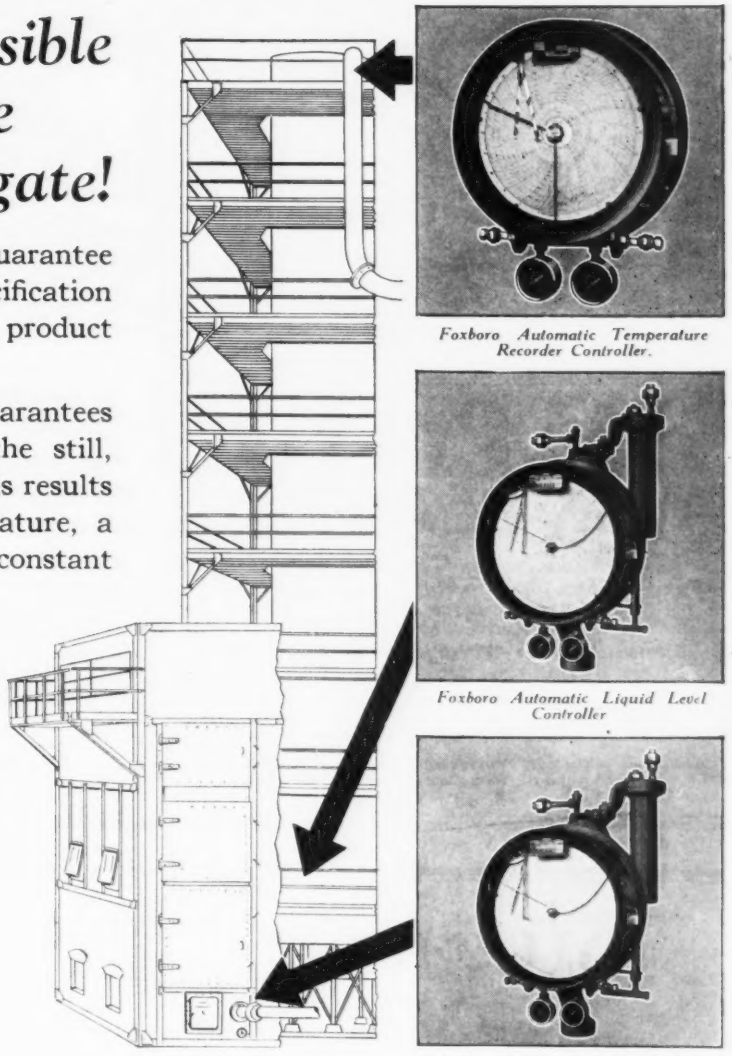

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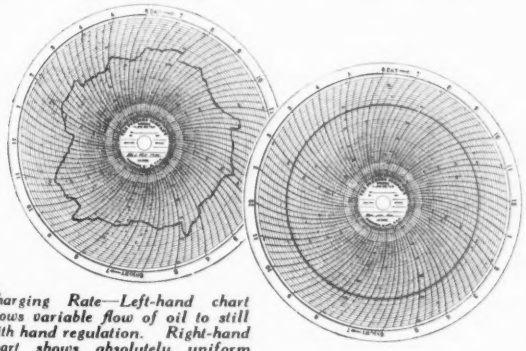
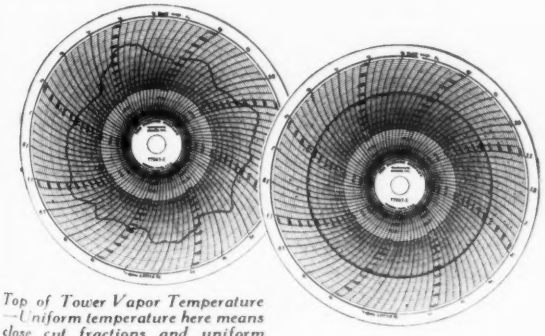


Charging Rate—Left-hand chart shows variable flow of oil to still with hand regulation. Right-hand chart shows absolutely uniform charging rate with Foxboro Automatic Flow Control.



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shows also that oil consumptions for the three oils are sufficiently close to preclude any masking of results from this cause. From Table II also the general trend of the results may be seen.

This is brought out in the figures for miles per port clean-out under the data for each group of coaches on each oil. For the high carbon paraffinic oil this average is 314 miles per port cleanout; for the low carbon paraffinic oil the figure is 401 miles and for the naphthenic oil 1556 miles. This indicates a very marked superiority of the naphthenic oil over both paraffinic oils.

The significance of the figure for miles per port cleanout can be pictured as follows: If the miles per cleanout be multiplied by 6, the number of ports in each engine a comparative figure will be obtained to indicate the distance an engine could operate on each oil without cleaning. For the high carbon paraffinic oil, it is 1884 miles; for the low carbon paraffinic oil it is 2406 miles and for the naphthenic oil 9336 miles.

Figures 1, 2 and 3 bring out more strikingly to the eye the above comparisons regarding number of ports cleaned on the three oils. The small number of squares and triangles on Figure 3, as compared with the very much larger number on Figures 1 and 2 is quite marked.

The significance of Table III rests on the three figures for percentage of port area closed by carbon per 10,000 miles of operation. These indicate that with the high carbon paraffinic oil the entire port area would have been completely closed over more than three times during the 10,000-mile run.

For the low carbon paraffinic oil the port area would have been closed

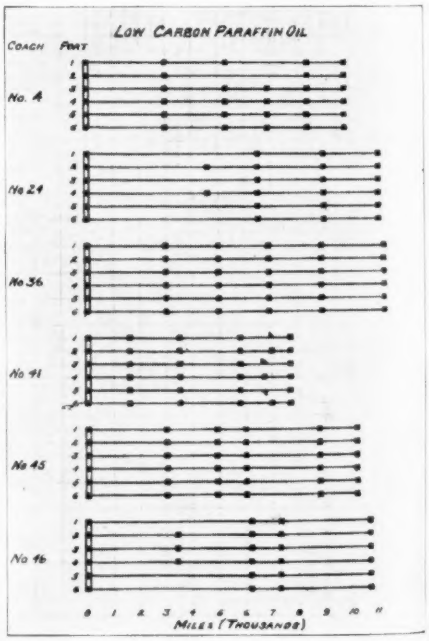

Fig. 2

There is a substantial breach between quality, cost and selling price of straight distilled gasoline and Dubbs Cracked Gasoline

And the breeches are full of profits for the refiner who uses the Dubbs Cracking Process

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

more than two and one-half times over the same distance. For the naphthenic oil, however, the area would have been closed only once. It is interesting to note that approximately the same figure for the naphthenic oil was obtained from the miles-per-port-cleanout relation given in Table II.

The comparative figure for complete closure there was 9336 miles. It is also interesting to note that for the naphthenic oil nine ports went through the entire distance without any cleaning and fourteen were cleaned only once.

The results with the small poppet valve laboratory engine, as given in Table IV, show that the three oils are placed by these tests in the same order as by the coach tests. The high carbon paraffinic oil gave most carbon, the low carbon paraffinic oil gave the next, and the naphthenic oil the least. This is true whether wet carbon as recovered from the engine is considered, or that corrected for oil and ash.

From the results of the previous studies on the subject in this laboratory, the authors have pointed out the apparently general significance of the carbon residue test as an index of carbon-depositing tendency. In all their papers, however, they have suggested that the fundamental property involved is the volatility at flame temperature (as prevailing in the combustion chamber) of the oil, and that the carbon residue test owes its significance to its being a rough measure of such volatility.

As a matter of fact, the carbon residue test is probably dependent upon three main factors (a) the amount of completely non-volatile, easily cracked asphaltic and similar material in the oil (b) the proportion of hydrocarbon material which is non-volatile enough to stay behind and crack (c) the character of this non-volatile residuum, which will crack to more or less coke, depending on its composition. Of these three, (a) is probably the least significant in an engine for well refined oils, since drastic filtering does not seem to change the carbon-depositing tendency of an oil very greatly.

When a test depends on so many and so complex factors, an occasional failure might be predicted. As a matter of fact, the work of the authors has brought out several such cases. In their latest paper J. Soc. Automotive Eng., 20, 688 (1917) a curve was shown indicating straight line relations between carbon residue value and carbon deposits; different grades of oil gave values falling on different straight lines.

This curve is now reproduced (Fig. 4) with additional points inserted. Point 13 is for an extra heavy blend of light naphthenic oil with a Mid-Continent bright stock; 14 is for a similar blend of the same naphthenic oil with a Pennsylvania bright stock; 13 falls on the line (Curve B) but 14 does not. Points 15, 16 and 17, are for the small engine results with the high carbon paraffinic, the low carbon paraffinic and the naphthenic oils respectively, used in the present study. Points 15 and 16 fall on a line practically parallel to Curve B, but point 17 is completely off the curve. (It should be remembered that as the oils become heavier, the lines should be higher in the graph, the slopes depending on the combustion chamber temperatures; see J. Soc. Automotive Eng., 20, 688 (1927). Furthermore, the present results with sleeve valve engines bear no perceptible relation to carbon residue values. Two difficulties are thus apparent; first, to establish the significance of the carbon residue test for engines in general, and secondly, to find a test which will choose oils satisfactory for sleeve valve engine use. The second has seemed the easier task.

The construction of the ports in a sleeve valve engine is such that the carbon deposited is subject to erosion by the exhaust gases. A soft fluffy carbon will not have much opportunity for accumulation. A heavy, sticky carbon, on the contrary, will build up in a very short time. Any amount of deposit will decrease appreciably the gas flow through the port and the deposit will augment itself rapidly. In other words, the process of deposition increases progressively after the manner of a snow-ball rolling down hill.[3]

The tests with the three oils in the laboratory poppet valve engine indicated that the most adherent and densest carbon was deposited by the high carbon paraffinic oil; this oil, correspondingly, required the most cleanouts in the coaches. The low carbon paraffinic oil gave carbon deposits which were somewhat softer than those from the high carbon paraffinic oil, and gave slightly better performance in the coaches than did the latter. The carbon from the naphthenic oil was definitely different from that of either of the two other oils, being soft and powdery. Correspondingly, the coach results from this oil were strikingly the best.

The establishing of a laboratory test which will serve to recognize an oil of the character desirable for sleeve valve engines has been the subject of much study on our part. Gravity, carbon residue test and similar physical characteristics and combinations of these, such as the carbon residue test of a distillation residuum, have proved unsatisfactory. The fact that an oil volatile at very high temperatures left a soft, powdery carbon, while an oil non-volatile at the same temperatures left an adherent carbon, as established by previous work in this laboratory, suggested that a distillation test preferably in vacuo, would serve the purpose, and this has proved to be correct.

A distillation test under 10 mm. pressure was applied to the three oils used in this work. The flask used was that described in Bureau of Mines Bulletin 207 modified with a second neck to allow the taking of liquid temperatures. The usual gauze cones were used in the vapor column. Because of the varying boiling ranges of naphthenic and paraffinic oils it proved advisable in a test of this kind to control the heat input rather than the distillation rate.

Current input to the electric heater was adjusted to give a temperature rise from 11 to 12 F. per minute during the predistillation period. This setting was maintained during the distillation, the cracking point being distinguished by a drop in vapor temperature. The results of these distillations follow:

The naphthenic oil distilled off 90 per cent by volume between 580 F. and 664 F. This oil gave good results. The low carbon paraffinic oil gave 30 per cent between 614 and 698 F. when it cracked. The high carbon paraffinic oil gave 30 per cent off be-

Vacuum Distillation

Pressure	10 mm.						2 mm.			
	High Carbon Paraffinic Oil		Low Carbon Paraffinic Oil		Naphthenic Oil		High Carbon Paraffinic Oil		Low Carbon Paraffinic Oil	
% over at cracking point	30		30		90		41.0		49.0	
% over	°F.	°C.	°F.	°C.	°F.	°C.	°F.	°C.	°F.	°C.
	544	284	614	323	580	304	490	254	520	271
10	604	317	650	343	590	310	543	284	584	306
20	650	343	676	357	598	314	606	319	615	318
30	698	370	698	370	602	316	650	343	644	340
40	.....	.....	.....	.....	607	319	690	365	672	355
50	.....	.....	.....	.....	614	323	.....	.....	700	371
60	.....	.....	.....	.....	621	326	.....	.....	.....	.....
70	.....	.....	.....	.....	628	331	.....	.....	.....	.....
80	.....	.....	.....	.....	640	338	.....	.....	.....	.....
90	.....	.....	.....	.....	664	351	.....	.....	.....	.....

[3] It has been suggested that a decrease in the port area, as by carbon deposits, should increase the speed of the gas flow through the ports, tending thus to erode out the deposit. When a dense and adherent deposit has formed this effect is not noticeable; with the naphthenic oil, however, several cases were observed in which a deposit present at one inspection had been materially reduced at the next inspection.

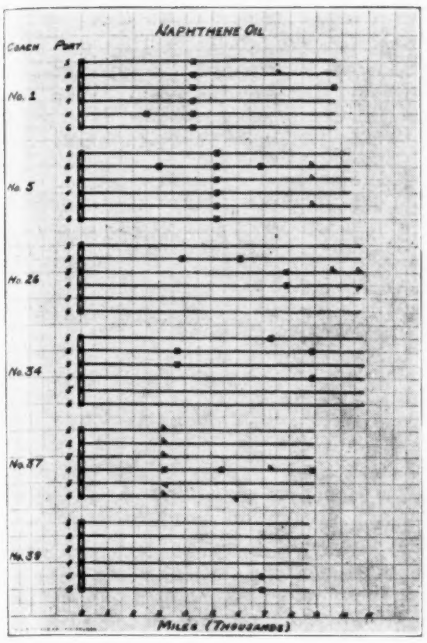

Fig. 3

tween 544 F. and 698 F., the cracking temperature. This serves to emphasize the point that such a distillation will distinguish a satisfactory oil from one not satisfactory, but will not evaluate two unsatisfactory oils for desirability.

However, to investigate the point in question, the high carbon and the low carbon paraffinic oils were distilled in the same way at 2 mm. pressure. This served to bring out the difference between them. The high carbon paraffinic oil gave 41 per cent off between 490 and 704 F.; the low carbon paraffinic oil gave 49 per cent between 520 and 703 F. This difference in volatility is in the same direction as the difference in carbon formation in the coaches for the two oils and perhaps of the same order of magnitude.

The three factors listed earlier in the discussion as influencing the carbon residue test, almost undoubtedly are those most important in determining carbon-depositing tendency in an engine, but they cannot be sorted out and evaluated from the single figure of the Conradson test, any more than the values of three unknown quantities can be determined from one equation. Factor (a), the asphaltic material in the oil, while having a large influence on the carbon residue test, might change the engine carbon deposit very little.

A logical deduction from this would suggest heavy clay filtering of an oil before applying the carbon residue test. The authors have tried this but have no conclusive results yet. Factors (b) and (c), the proportion of non-volatile residue and the proportion of coke left by this residue on cracking, may conceivably vary independently; but it is the authors' experience that an oil which leaves very little residue non-volatile at flame temperatures also leaves very little of this residue as carbon. Such conduct seems to be an inherent property of naphthenic oils. It should be remembered that only volatility at combustion chamber temperatures is important since good oils are not volatile at piston wall temperatures.

A fourth factor in engine carbon deposits, which is not reflected in the carbon residue test, is the character of the coke formed on cracking. A dry, powdery form, free of binder, is desirable since mechanical influence inside the engine can easily remove it. This is brought out forcibly by the present work with sleeve valve engines. Such loose deposits seem also to be an inherent characteristic of naphthenic oils.

Such conclusions as may be drawn,

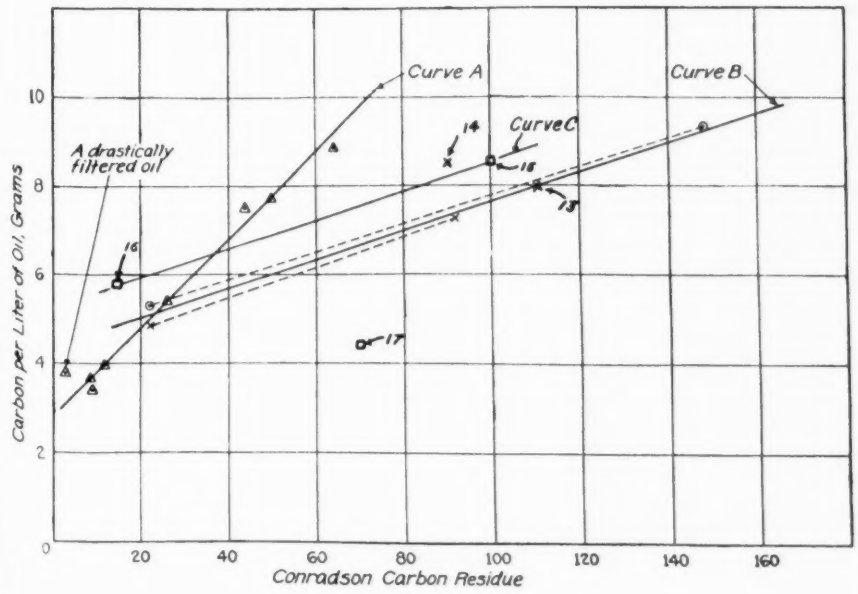

Fig. 4

Distillation—Fractionation

Forty-one articles have been published since June, 1928 in National Petroleum News on the subject of increasing yield of products—improving their quality—reducing manufacturing costs — equipment design—

This averages a little more than one article per issue on this one phase of refinery operation. For your file reference we list them below:

1929

Ten methods to modernize old shell stills Oct. 30, p. 83
Laboratory aids in the control of fractionators Oct. 30, p. 181
Precautions for obtaining high distillation efficiency Oct. 30 p. 193
Pipe stills improve products, cut costs Aug. 14, p. 93
New bubble towers from old stills by use of special trays are low in cost, high in efficiency July 24, p. 65
Modern lube oil manufacture July 10, p. 73; July 3, p. 71
Lube making from Ranger crude June 26, p. 80; June 19, p. 78; June 5, p. 73
Refinery makes over old equipment June 12, p. 64
Farthest west refinery in Texas June 12, p. 74
Distillation, light cracking and desalting West Texas crude May 29, p. 65
Vertical tube still developes 70% efficiency April 24, p. 75
Improving fractionation in cracking systems March 13, p. 78
1928 refinery progress March 6, p. 69
Still is most important of absorption plant March 6, p. 72

1928

Pipe still application to vacuum distillation Dec. 5, p. 83
Single pass pipe still handles 2500 barrels crude Dec. 5, p. 86
Flash vaporization of petroleum to produce lubes Dec. 5, p. 93
Motor oil specified on resistance to distillation Oct. 3, p. 90
Better fractionating equipment saves heat Sept. 26, p. 91
How a refinery cut costs in half Sept. 19, p. 22
Gravity, volume corrections for temperature Sept. 5, p. 110; Sept. 19, p. 74
Gas and gasoline analysis in plant control Sept. 5, p. 79
Narrow distillation range oils best for absorption Aug. 8, p. 54
Distillation test in determining vapor pressure Aug. 1, p. 58
Light fractions from stabilizer July 25, p. 21
How important oil tests are applied Aug. 22, p. 81; Aug. 15, p. 73; Aug. 1, p. 80; July 25, p. 29; July 18, p. 26; July 11, p. 60
Improving efficiency of shell stills July 11, p. 69
Gasoline recovery from gases, Bayer charcoal process July 4, p. 67; June 27, p. 97
Zilwaukee refinery adapted to small field June 20, p. 23
Vertical steam still for fat oil distillation June 6, p. 37
Saves $80,000 yearly with auxiliaries June 6, p. 32

The above list of articles is for your convenience in locating them in your file.
If you wish extra back copies, we shall be glad to supply them at 25c a copy. However, our stock of back numbers is limited and we are entirely out of some issues.

On numbers that are exhausted, we can have photostat copies made of the pages you wish at a cost of 40c per page, negative proof.

Libraries in the larger cities generally keep back files of National Petroleum News complete.

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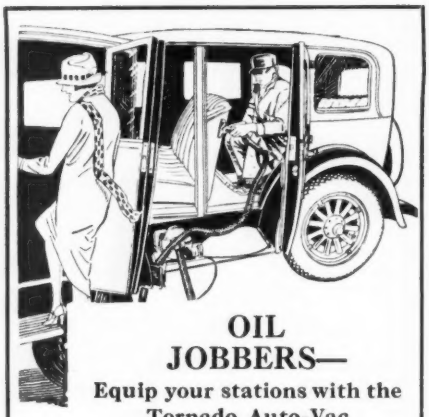

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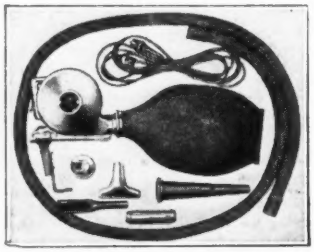

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TABLE IV

Laboratory Tests in Poppet Valve Engine

Run No.	Consumption cc.	Wt. of carbon (wet) Grams	Wet Carbon Value	Wt. of Carbon less oil and ash	Dry carbon Value
		Naphthenic Oil			
C-214	230	1.675	7.3	1.187	5.2
C-230	235	1.686	7.2	1.280	5.5
			Av. 7.3		Av. 5.3
		High Carbon Paraffinic Oil			
C-216	245	3.664	14.8	2.231	9.1
C-225	230	2.924	12.7	1.858	8.1
			Av. 13.8		Av. 8.6
		Low Carbon Paraffinic Oil			
C-215	245	2.781	11.3	1.490	6.1
C-218	250	2.610	10.4	1.430	5.7
			Av. 10.9		Av. 5.9

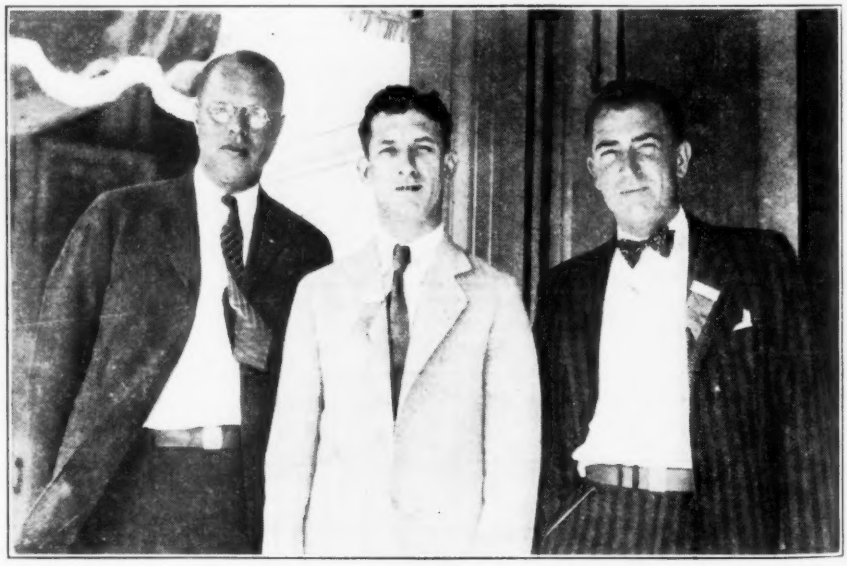
while tentative, are clear. The carbon residue test is a fairly reliable index of carbon deposition in a poppet valve engine, other conditions being rigidly the same. Of seventeen oils listed, fifteen give fair agreement with a straight line relationship to carbon residue test. Its success is most conspicuous in evaluating paraffinic oils.

The setting in oil specifications of reasonable upper limits for carbon residue values in the same viscosity class should protect the user from excessive carbon deposits, because a paraffinic oil of low carbon residue value must be very highly refined; a naphthenic oil, always of low carbon residue value, has an inherent tendency to low carbon deposit. In either case the user will be protecting himself against abnormal carbon deposition.

For sleeve valve engines, the situation seems to be different. A paraffinic oil of very low carbon residue value was only slightly better as to carbon deposits than one of normal carbon residue value, and both were very strikingly inferior to a naphthenic oil. The characterizing of such a naphthenic oil seems possible best by a vacuum distillation specification.

A tentative recommendation might be that such oils, in addition to being otherwise suitable, should show at least 90 per cent volatility distilled under 10 mm. pressure in a test similar to that described above and should boil between suitable limits of liquid temperature, these to be set for the particular equipment in mind. For the coach engines used in this work these limits might be between approximately 550 F. and 700 F. (at 10 mm. pressure). Probably 5 per cent could be allowed to distill over below the lower temperature limit. Other suitable upper and lower limits must perhaps be set for other types of sleeve valve engines.

WASHINGTON—Cartagena, Colombia, exported 1,648,891 barrels of crude in August, a gain of 164,500 barrels over August, 1928. The United States received nearly 1,100,000 barrels of this amount.



From left to right are shown three members of the Texas Petroleum Co., San Antonio marketers. They are R. S. Petersen, who also operates a refinery at Big Spring, West Texas; Roy Wight and G. R. Schimmel

Car Servicing in Club Atmosphere

First of Chain Opened in Chicago Others Being Planned Are to Include General Merchandising Stores as Well

CHICAGO

EXPANSION of the merchandising and service features in one-stop stations of Super Service Stations, Inc., is planned with the entry of that company into the Kansas City field. Two stations, of a proposed chain of 35 in the middle west are in operation now in Chicago selling gasoline, motor oil, complete lubrication, auto washing and polishing, and brake repairing.

Preliminary ground plans for the Kansas City station call for 13 store spaces, flanking the chain conveyor auto laundry. It is planned to rent some of these store spaces for tire, battery, and accessory departments, bringing all automotive services, excepting repairs, under one roof. Plans also include a drug store where patrons may obtain light lunches and refreshments.

Super Service Stations opened its first establishment at 5719 Broadway, Chicago, on June 27. A garage building was altered with the show rooms in front for the rest rooms and the rear room was converted into the work shop. At the end of August the second station was opened at 6919 Stoney Island avenue, Chicago. This was a service station enlarged to include the auto laundry and brake departments.

The chain proposes to erect 35 such stations in the middle west, in cities of 30,000 population and over. Entry into Kansas City marks the first station outside of Chicago.

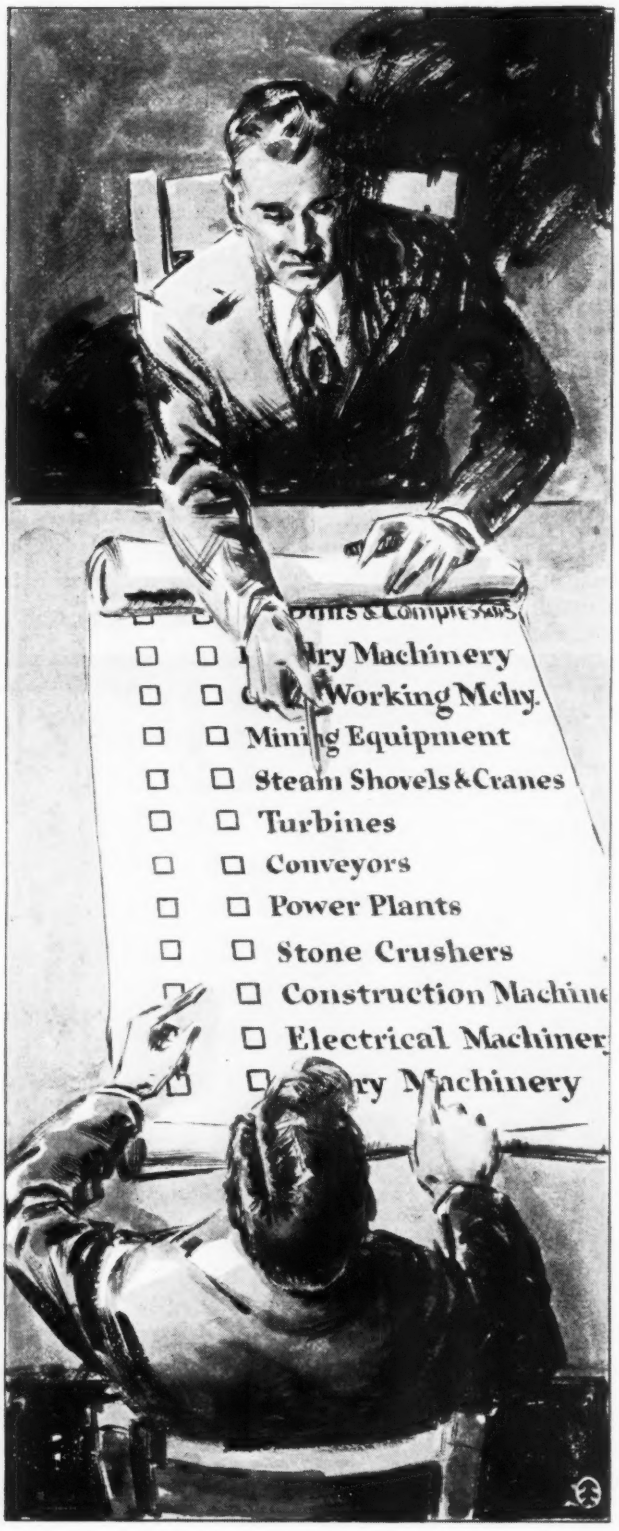
Super Service Stations is a comparatively young company, in an industry that celebrated the 70th anniversary of the Drake well in Pennsylvania last August. Considerable time and energy was expended, however, before the young company invited the public to patronize its stations.

Chicago was considered a difficult port of entry into business. The city on the other hand had a virtue that should not be overlooked, it was said. A casual survey by Major H. L. Goodwin, vice president of Super Service Stations, showed a city disgruntled over the service from garages. Charges were high, even if good work had been done, but the element of good workmanship was lacking in many cases Major Goodwin found.

This dissatisfaction over conditions was considered an aid in starting a

The grand staircase leading to the mezzanine where women customers may wait

THERE ARE MARKETS IN YOUR NEIGHBORHOOD YOU SHOULDN'T OVERLOOK



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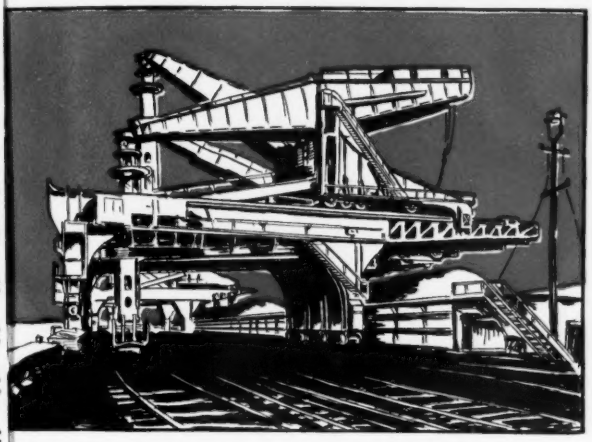
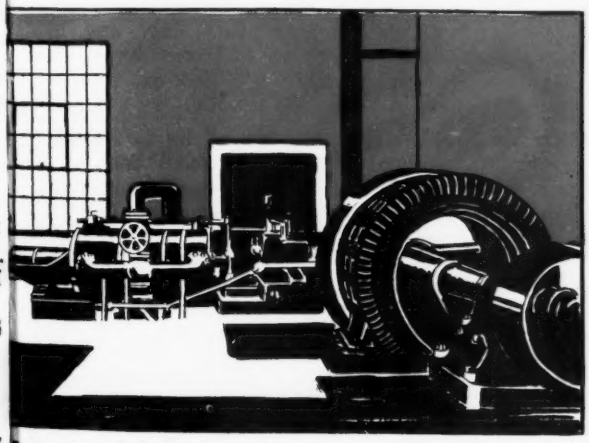


Ore Unloaders—These mechanical giants are not found on every street corner but they suggest many other important markets, wherever heavy machinery is used.



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☐	☐	☐	Fibre and Sponge Grease
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	☐	☐	Auto Soap
	☐	☐	Petrolatums
		☐	Belt Stick
☐		☐	*Canfield Penetrating Oil*

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Company _____

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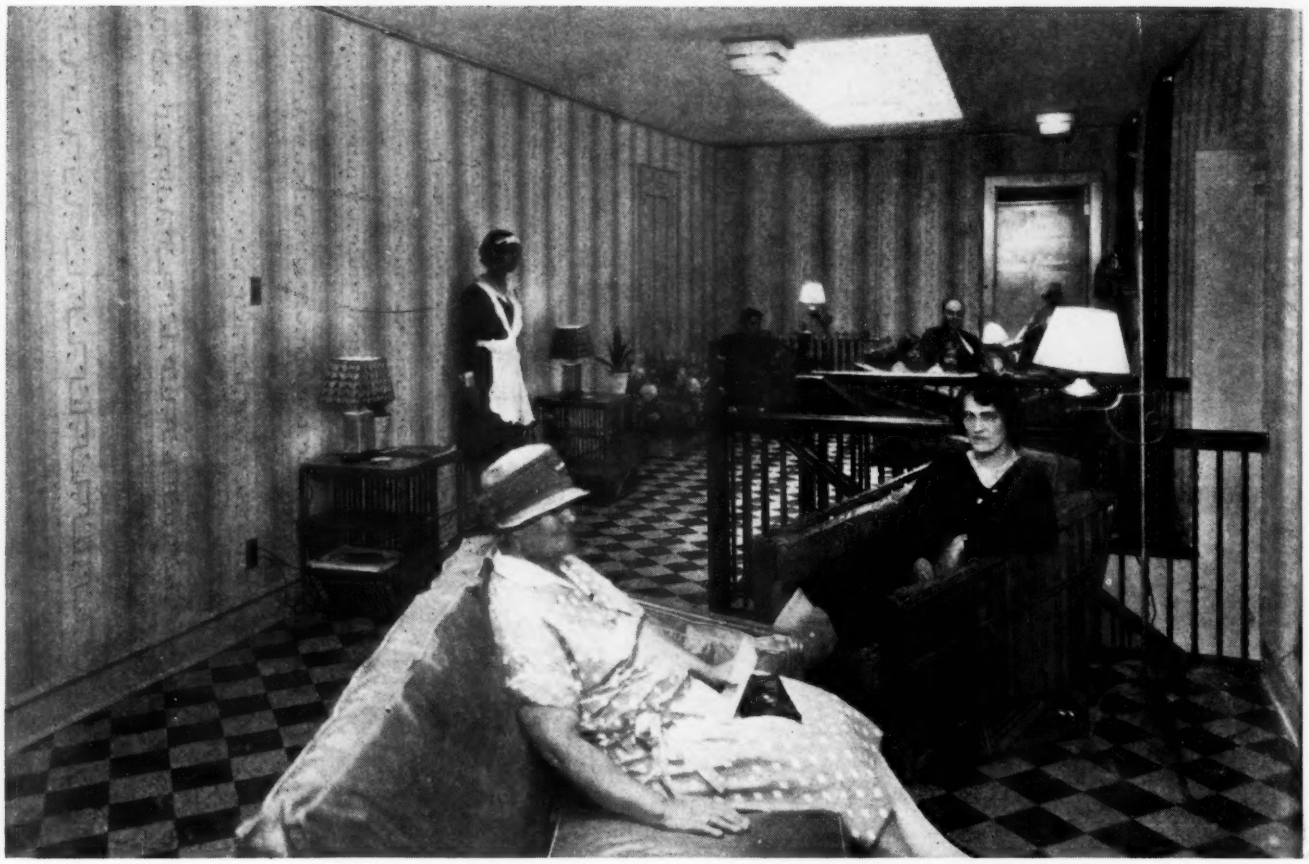
Canfield



The mezzanine lounge at the top of the grand staircase

business doing a good job at a reasonable charge.

So the company decided to install a station on Broadway, on the north side of the city, at a location between the Wilson avenue uptown and the Devon district. Statistics were gathered on this potential market before proceeding.

That 18,000 automobiles passed the location daily, driving north and south, was reported by a traffic checker. On the nearer east and west street 3200 cars moved daily. Sixty-one per cent of the autos were driven by women. Traffic was checked for six days, from 8 a.m. to 11 p.m., at a cost of $50 a day.

From the state license bureau were obtained the addresses of 8000 automobiles registered within a radius of a mile of the proposed station; Lake Michigan is about half a mile to the east, limiting the size of the zone. The list was used for mailing announcements of the station's opening.

In the second mile zone there were 34,000 automobiles registered; this does not include the 8000 in the first mile zone. An analysis of the announcement mailing showed that 15 per cent were returned, which the company considers as the floating population. Three per cent of the autos were found to be registered at fictitious addresses or by unknown owners. One auto was found registered at a vacant lot; several cars had good addresses but the owner's name was fictitious.

These statistics were considered when mapping out the future merchandising campaigns—that 15 per cent of the potential customers are a floating population, and that 3 per cent of the mailings would go to unknown owners.

Intensive inside work was done also before opening the first station. From a brake manufacturing company was obtained a recommendation on a man capable of operating the department. His first task was to adjust the brakes on Major Goodwin's auto.

From delivery of the car the brakes had been unsatisfactory. Numerous garages had worked on the car without results. In Chicago a garage charged $26 for repairing, and the brakes were out of adjustment within five hours.

The proposed brake department foreman did a good job, and was assigned to the Broadway station providing he could do uniformly good work. He guaranteed his work on the condition that he could choose his workmen and equipment, and that on every brake adjustment job the customer would be required to return once a week for two weeks for minor inspection before the work would be considered finished. His requests were granted.

A somewhat similar trial was given the auto laundry system before public patronage was solicited. Word was sent to all auto and used car dealers in the neighborhood to bring in their cars on a certain day for a free wash. Three hundred cars moved on the conveyor that day, and by night the system and men were considered capable of working for the public.

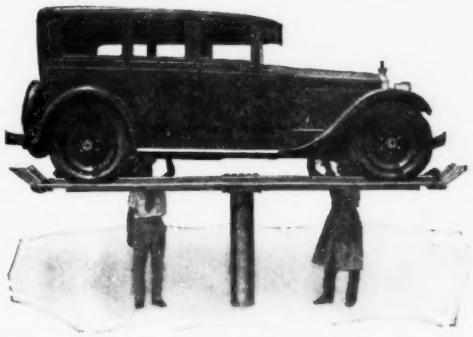
To tell the public of its service the company believes a small four-page pamphlet, distributed to all homes and apartments in neighborhoods adjoining stations, will be the most effective as well as reasonable in cost. The first of these pamphlets has been distributed in the neighborhood around the Broadway station, 25,000 were distributed in the mile zone. The second is being edited now.

Incidentally Major Goodwin believes the efforts to merchandise his service and to establish the stations would be applicable to a small city or town. This article deals with the company's efforts in Chicago, but he said the same procedure would be followed in smaller cities.

Newspaper advertisements were considered effective in announcing the stations. Super Service Stations used space in a Sundey section which circulates in restricted districts. The newspapers in Chicago on Sunday publish sections which go to definite areas, so advertisers can concentrate their efforts.

In reaching the north side section

Rotary Lift Advantages Are Provided Only By Rotary Lift



Model 88B—Drive On Type

14-ft. platform, 15-in. runways with no outer flange. Extra wide, adjustable approaches 13-in. long that are used as chocks when car is elevated. Adjustable drain pan with two support brackets. Flush type packing gland. Non-adjustable packing. Self-operating hydraulic control valve in plunger. All weather service, inside or outside. Non-rotating if desired. First or second floor installation.

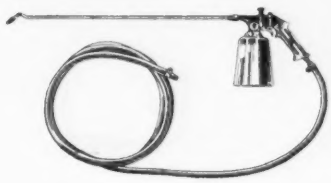
Better Built to Give Better Service

ELECTRIC WELDED JOINTS—Seams are smooth, even and rigid and strong as the metal itself.

ALL STEEL AND MALLEABLE BUILT—Gives the strength and stability that nothing else provides. Lasts indefinitely. Depreciates slowly.

"LISTED AS STANDARD" by Underwriters' Laboratories—Your assurance that Rotary Lift is built according to approved standards and that quality of materials and construction are uniformly maintained.

AUTOMATIC HYDRAULIC CONTROL—Positive assurance of safety and full hydraulic control independent of manually operated devices. Works automatically as the lift is operated. Requires no service or attention. Cannot break or get out of order.



Rotary Lift Spray Gun

A superior designed and constructed spray gun that operates on an entirely new principle. The air is applied directly to the oil, which reduces mist to a minimum, thus eliminating the most objectionable feature of old style spray equipment. You will find the Rotary Lift Spray Gun a profitable accessory to your greasing service.

Our new catalogue will give you full information on all Rotary Lift products. Write for a copy.

AUTOMOBILE ROTARY LIFT CO.

MEMPHIS, TENNESSEE

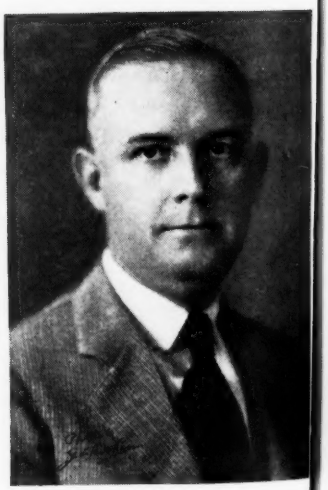
ANNOUN
HANLON-BU

E. I. HANLON
Chairman

D. E. BUCHANAN
President

A. F. WOOD
Vice-president

J. H. BOYLE
Secretary-Treasurer



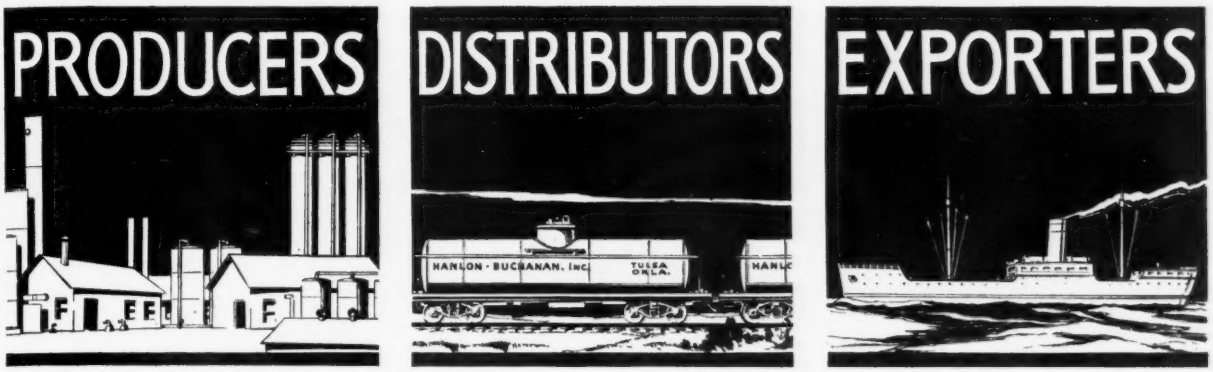
M. F. WATERS
Director

HANLON - BU

GENERAL OFFICES:

NATURAL GASOLINE AND ITS PRODUCTS

NCING.....
UCHANAN, INC.



Especially processed products of Natural Gasoline

and

Natural Gasoline in all the conventional grades.

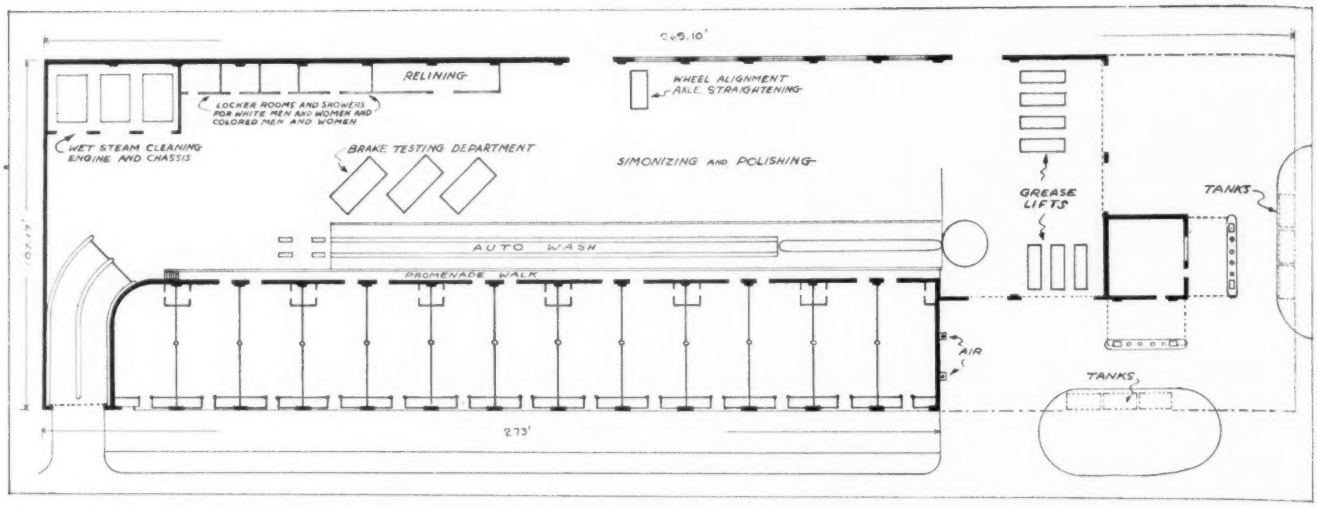
Our facilities, including a complete processing plant and terminal at Good Hope, Louisiana, (New Orleans Port) enable us to handle any order from

A CAR TO A CARGO

UCHANAN, INC.

TULSA, OKLAHOMA

ESPECIALLY PROCESSED PETROLEUM DERIVATIVES



A preliminary ground plan sketch of the proposed Kansas City station of Super Service Stations, Inc., of Chicago

approximately 3200 lines of space were used in five advertisements at a cost of 33 cents a line. These advertisements carried a coupon entitling the bearer to one free auto wash after one paid wash. About 300 coupons were returned.

A similar lineage was used in the section going to the south side in advertising the Stoney Island avenue station, at a cost of 19 cents a line. From four advertisments 427 coupons were returned.

The pamphlet, prepared as a miniature edition of a newspaper, is believed now by the company to be the best medium for reaching its market. Printing costs are reasonable, and distribution can be had through a commercial agency at slightly less than $5 a thousand. The distribution cost may be reduced if high school boys can do a satisfactory job.

Production costs of the pamphlet may be spread out by selling advertising space to the various departments comprising the establishment. Thus the editorial content would be concentrated on some particular service feature in each issue.

Lifts are used for lubrication service and brake work.

"The public wants to see the work being done on the car," said Major Goodwin, "and we never are going to hide our work by using pits."

Rest rooms are considered an important item in the stations. At the Broadway station a mezzanine floor houses the waiting rooms, and customers have a view of the work room. For entertainment there are radios, and desks for writing or playing cards. A colored maid, a graduate nurse, is in attendance at the women's rest room. Expensive drapes and wall paper were used, and the furniture is of modernistic design.

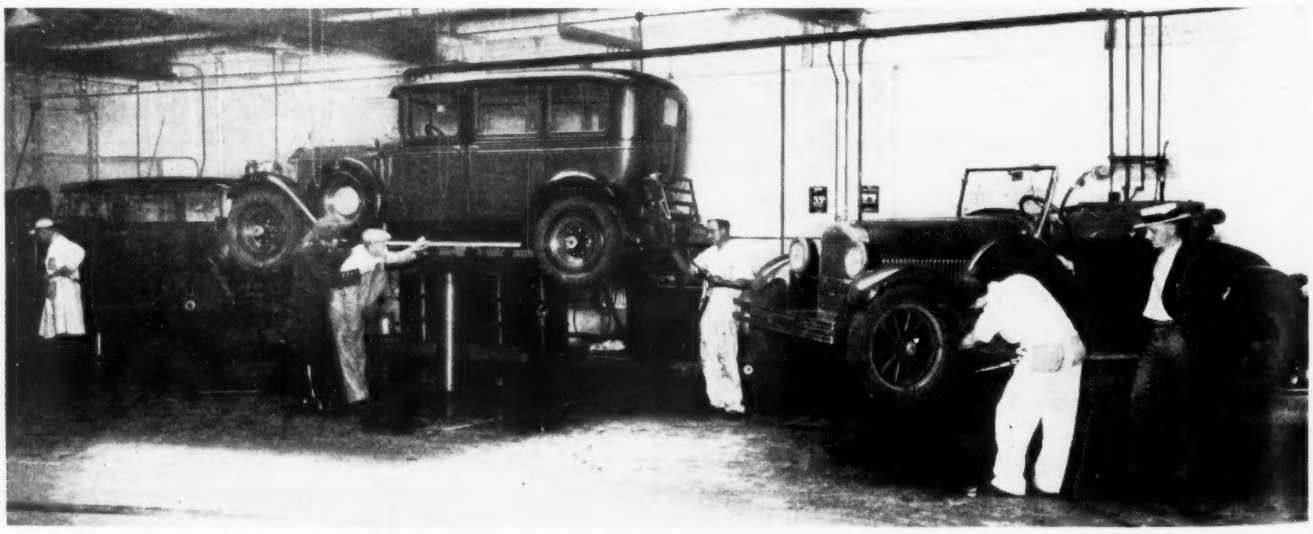
The mezzanine floor was available at the Broadway station, as the building had been used for an auto sales room. At the Stoney Island avenue station the rest room is on the ground floor.

Capable workmen are sought by the company. The applicants are given a mental test first to determine their ability to think, their initiative, and their spirit. At present these tests are oral, but it is planned to reduce them to a written examination. The men are trained at the Broadway station.

Salaries paid are higher than the average. The lowest wage on brake work is $60 a week. On the auto laundry conveyor, employing colored men and women, the lowest wage is $27.50 a week. Part of the company's earnings are to be set aside for stock to be given to workmen considered holding key jobs—workmen whose service is considered indispensable.

"Work on each auto as though you were the owner, and smile always," are instructions to all employes.

Recently a $300 a month manager of one of the stations was discharged. The manager had been prodding a workman into faster lubrication work. Reports of this attempting to cut the corners reached headquarters. The manager admitted he was "sour" on



Lifts at the Chicago greasing station. Three lifts are used for greasing, and one for brake repairing

STOP THAT LEAK!

The business you don't have— but should have— is costing you real money

THE biggest profit-leak in any business is made up of trade that could be easily obtained but has been either overlooked or sadly neglected.

Consider *your* market. If it consists of farm trade you are now serving merely through a service station, you are overlooking a great opportunity! You are letting competition in on *your own* business.

The Blackmer Pump Company is very effectively helping oil marketers to solve this problem. It has built up a Merchandising Plan whereby you sell each individual farmer a Home Filling Station and then supply him with *your* gas and *your* oil exclusively—making a profit on the sale of the equipment as well as on the increased gallonage.

Tie the farmer to your products now. Put Blackmer pumps out on the farms. Assure yourself of all the farmer's business—not just a part of it!

Now is the time to act, before winter comes. Mail the coupon for interesting facts of the Blackmer plan—for details of the pumps that compose the Blackmer Home Filling Station equipment—for stories of how other marketers have profited from the Blackmer plan. Take the first step towards tying up the farmer—towards getting new, profitable business—by filling in the coupon. No obligation whatsoever.

BLACKMER PUMP CO.
Grand Rapids, Michigan

The Pumps

"Big Boy" is a sturdy rotary gasoline pump—quick, easy delivery—long life. "Big Brother" is for safe storage and fast delivery of oils—also quick and efficient. No back turning or priming is necessary with these pumps. They automatically take-up their own wear and give your farmer customers years and years of trouble-free service.

"Big Brother"

"Big Boy"

Blackmer Pump Company,
1801 Century Ave., Grand Rapids, Mich.

Please send me details of the Blackmer plan of tying up the farmer to my gas and my oil.

Name.....

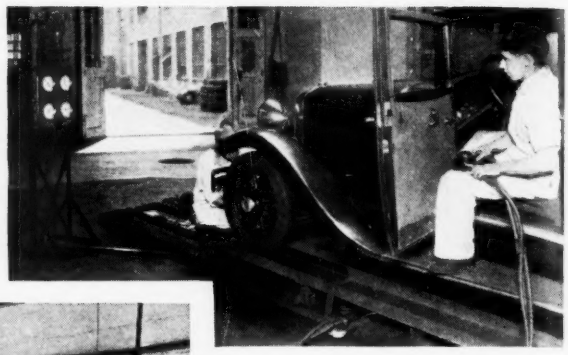
Address.....

.....

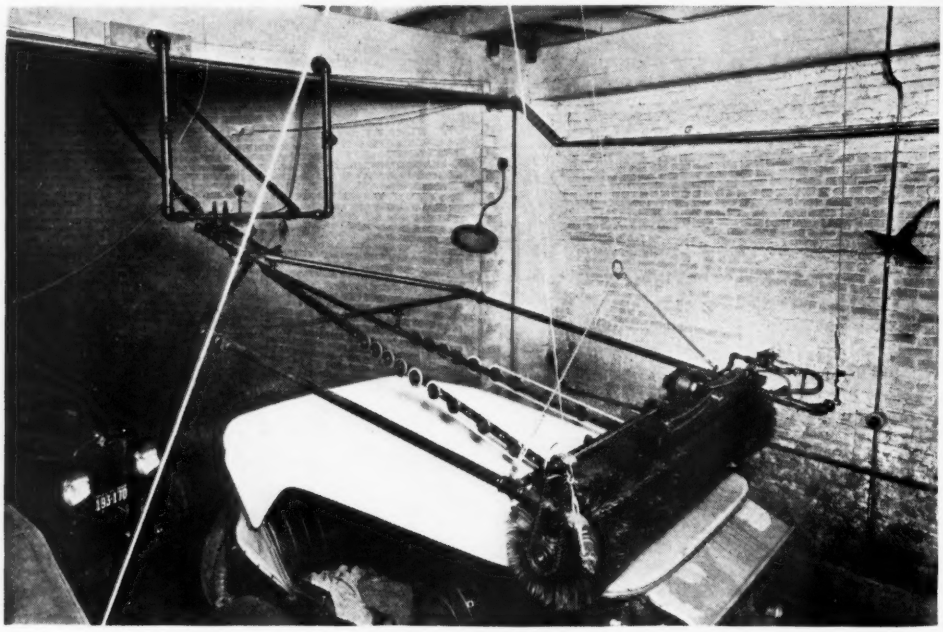
BLACKMER HOME FILLING STATIONS

the job, and believed the public didn't care about good work. His resignation saved the embarrassment of being "fired."

Employees are kept on the payroll when ill or if they have had an accident. To obtain a workman's compensation check in Illinois the employee must be off work for eight days. Super Service Stations has made it a policy to protect its workmen during the eight days. First aid kits are available at the stations.



Brake testing is free on all grease and wash jobs



The top cleaning machine used at the Chicago station

While the older station has been in operation only 16 weeks some data on its operation have been compiled. Auto washing, considered the magnet of the stations, was done to 7,000 cars in these 16 weeks at the Broadway station. Approximately 25 per cent of the auto laundry patrons are steady customers, which reduces to the need of 40,000 customers to have 10,000 steady patrons. A repeat wash within a month classes the customer as steady.

For a smaller city, the company does not consider entering a town of less than 30,000 population, a clientele of 1,000 steady cars a week would be considered necessary. On a basis of 25 per cent regular customers the weekly total would have to average 4,000 car washes. Overhead in a smaller city, however would be less, as a laundry plant with a capacity of 150 to 200 cars a day would be sufficient. Rent, labor costs and other items would be lower.

The Broadway station has been facing 99-cent car washing competition. To overcome this difference in price the station "greeter" meets any complaint with the suggestion that the motorist try a 99-cent wash then one at his establishment. The company welcomes a comparison.

Petroleum products, based on gross sales, brings in 60 per cent of the business. Other departments make up the 40 per cent.

A complete lubrication job is done for $1.50, and a tightening job of bolts and nuts is 75 cents extra. The greeter has work orders, printed in duplicate, and punches the service desired when the customer leaves his car. The duplicate goes to the owner, the original to the office. Mileage reading is supplied by workmen.

The office follows up lubrication and simonizing jobs. Follow-up letters on lubrication work are sent each month. For simonizing the letters are sent out in six months.

CAR washing has been done at $1.50 for open cars, $1.75 for coupes, and $2 for all sedans. The price this week will be reduced to $1.50 for all cars. A check showed that only 3 per cent of the cars washed were not closed.

Auto washing is considered the magnet of the business, and 42 per cent of these customers buy other services. As high as 70 per cent have bought a lubrication job during some periods. About 17 per cent of the auto laundry customers take a polishing job.

The Stoney Island avenue station was built around an established service station selling 30,000 gallons of gasoline a month. This gallonage has been increased to 45,000 gallons.

Free brake testing service for all cars on the auto laundry is being inaugurated. The tester will be placed at the beginning of the line and work will be done while free dirt is being blown from the car. There will be no delays in getting the car on the conveyor. The customer will be given a card showing the breaking condition of each wheel.

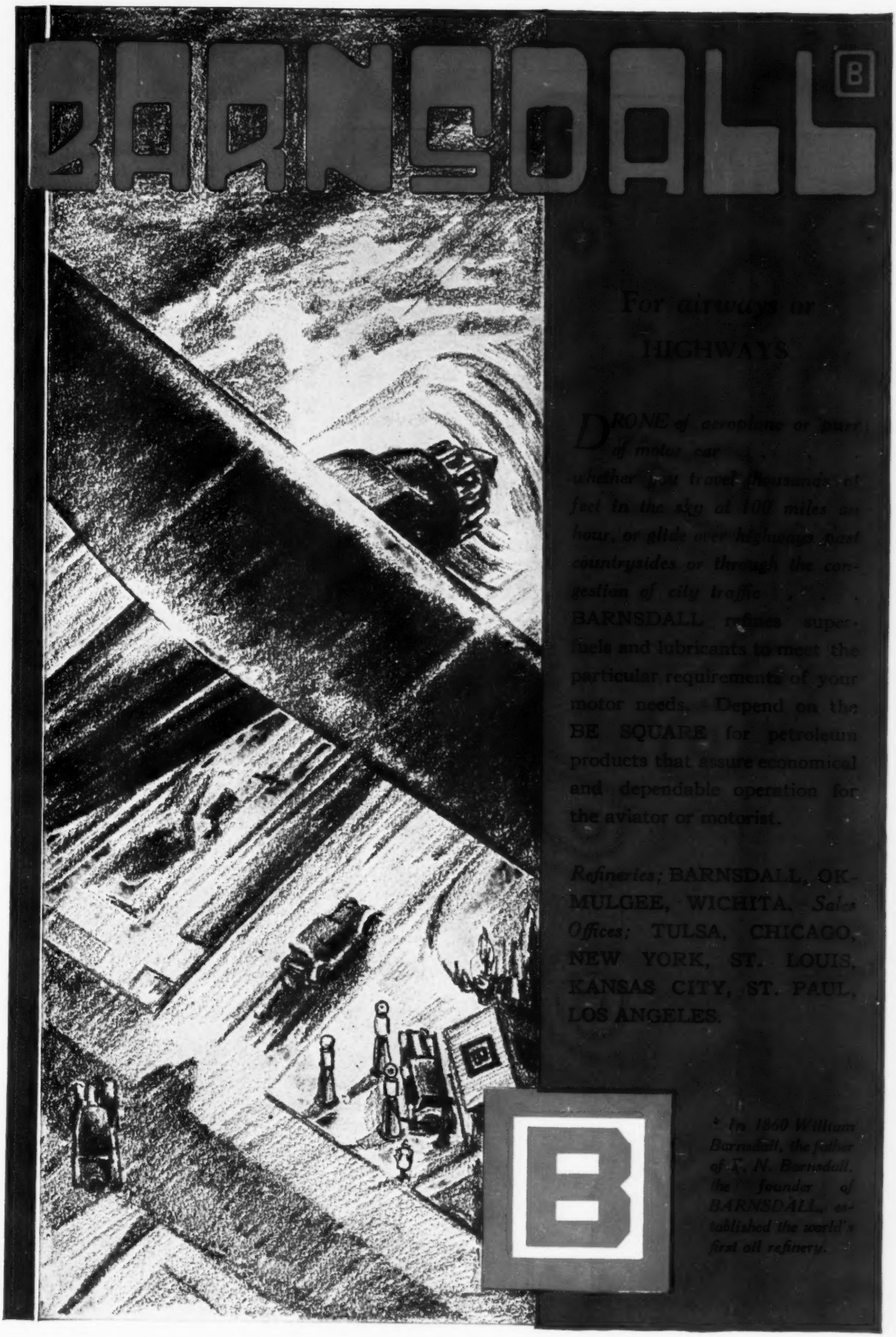
The auto laundry is a Bean-Edler system. The first step is blowing out the loose dirt. On the side opposite the blower is a wooden screen with water falling to catch the flying dirt and wash it to the sewer.

A turn table, the company plans to use lifts in the future, heads the car onto the conveyor. The chain conveyor is about 150 feet long, and a car moves through in about 12½ minutes.

Chassis and fenders are cleaned first with warm water under 300 pounds pressure. The top is washed with a revolving brush, illustrated herewith. Jets of water come through the brush. The next washing operation is cleaning the bodies with warm water at city pressure. To prevent water streaks and to dry inaccessible places surplus water is blown off the car. While the water is being blown off a colored woman polishes the inside of the windows.

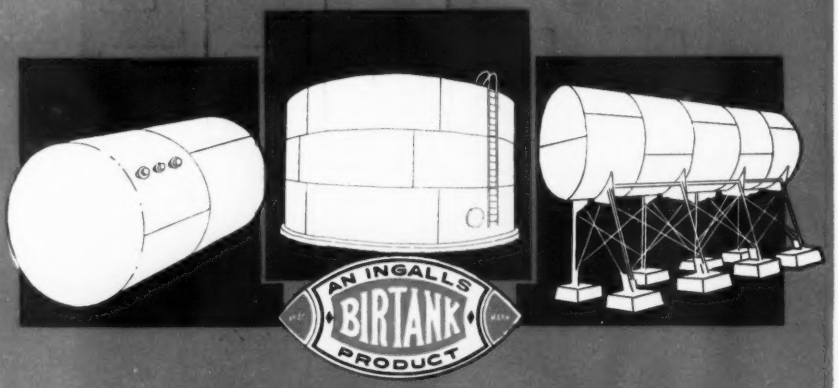
The final work is to chamois the body and outside of the windows

THE WORLD'S *FIRST** REFINER


BARNSDALL
For airways or HIGHWAYS
DRONE of aeroplane or purr of motor car . . . whether you travel thousands of feet in the sky at 100 miles an hour, or glide over highways past countrysides or through the congestion of city traffic . . . BARNSDALL refines superfuels and lubricants to meet the particular requirements of your motor needs. Depend on the BE SQUARE for petroleum products that assure economical and dependable operation for the aviator or motorist.
Refineries: BARNSDALL, OKMULGEE, WICHITA. *Sales Offices:* TULSA, CHICAGO, NEW YORK, ST. LOUIS, KANSAS CITY, ST. PAUL, LOS ANGELES.
B
* In 1860 William Barnsdall, the father of T. N. Barnsdall, the founder of BARNSDALL, established the world's first oil refinery.

BE SQUARE TO YOUR MOTOR

TANKS



"Birtanks" are the largest selling tanks in the South because they have proven their *absolute* satisfaction in actual service.

You don't experiment when you buy Birtanks. You are sure of quality and quick shipment of standard sizes from stock or speedy service from our large production facilities.

Let Birtank quote on your oil and gasoline storage tanks. It pays.

BIRMINGHAM TANK CO., Birmingham, Ala.

New York • New Orleans • Atlanta • Miami • Tampa • Jacksonville

OIL PRICE HANDBOOKS

HAVE you a complete record of REFINERY prices; TANK WAGON markets; EXPORT prices; CRUDE prices—

For quick reference and comparison with today's prices?

The OIL PRICE HANDBOOK is the only complete record of oil markets for a whole year, compiled in one handy volume for quick reference. Cloth bound—marginal index—9" x 6"—146 pages.

Oil Price Handbook for 1928.....$5
" " " for 1927.....$5
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Send for these OIL PRICE HANDBOOKS *now*, before they are all gone.

National Petroleum News, 735 Penton Bldg., Cleveland, Ohio

Major Goodwin

Burton Mudge

Mr. Mudge is president of Super Service Stations, Inc., Chicago, and is a manufacturer of railroad equipment

Major Goodwin is vice president of Super Service Stations. He has been interested in many merchandising efforts, particularly the marketing of "Old Dutch Cleanser"

while the seats and inside walls are being vacuumed.

At the end of the line is an inspector. He checks the work before delivery to the customer, and also tries to sell a polishing job.

Customers can watch the washing from a walk parallel with the conveyor protected by a wooden railing. Where water is used on the car the customer is protected by glass walls.

A radio is operated for the benefit of the wash crew. It speeds up the work, and when idle the workmen are entertained.

Each department in the station is in charge of a foreman. Sales effort on customers comes from the greeter at the entrance, and from the inspector where cars are delivered. The workmen also are trained to suggest other services if the customer is watching his car through the plant.

Super Service Stations is headed by Burton Mudge, railroad equipment manufacturer. Burton Mudge, Jr., is a vice-president; Edward Litsinger, Chicago banker and lawyer, is counsel and a director; and Louis C. Seward is secretary and treasurer.

Major Goodwin, a vice president, has been on many sales organizations in various industries. He is credited with marketing "Old Dutch Cleanser," and was sales manager for an electric automobile manufactured in Chicago.

Another angle to these one-stop stations is servicing fleets. At present Super Service Stations is testing, free of charge, each month the brakes on 1849 Checker taxi cabs in Chicago. A small sticker is placed on the windshield of cabs having approved brakes. Three colors are used for the stickers; the colors being rotated for the various months.

What sort of proposition could be made to fleet owners for servicing their trucks and cars is unknown yet, said Major Goodwin. The station plant and equipment are idle for many hours of the night, the only added expense being labor for another crew, or overtime for a day shift, plus power and light.

Gasoline Is 55% of Sales At One-Stop Station

NEWARK, Ohio

FOR every dollar that enters the cash register of the one-stop station of L. Essman & Son here, 55 cents comes from gasoline, 11 cents from tires and 7 cents from batteries. Sales of all petroleum products—gasoline, motor oil, and lubrication—account for 64½ cents of every dollar. These figures are gross sales made from Jan. 1 to the close of business on Oct. 9, 1929.

While 54½ cents is being rung up for gasoline, 8¾ cents is put in the register from motor oil. On a dollar basis the ratio is $6 in gasoline for every $1 in oil. On a gallonage basis this is 8.94 gallons of gasoline for each quart of oil sold.

The station is in a rectangular stucco building with a canopy in front over five gasoline pumps. The pit is indoors at one end of the building. In the building center is a complete stock of auto accessories, bar candy, tobacco, and the office. At the other end is the battery and tire departments. The petroleum products are from the Pure Oil Co., and the station is an agent for Miller tires and Philco batteries.

While the battery department is profitable in itself, three carloads having been sold in a little over a year, it also gives the station a valuable means of tying motorists to the station. A battery retailing at $5.95 cash plus the old battery is the missing link in getting the repeat patronage.

This particular battery is not guaranteed by the manufacturer. The Essman station puts on its own guarantee providing the owner brings the battery in every two weeks for an inspection. The nub of battery maintenance is in keeping water at the proper level, so the two weeks inspection provision allows the station to guarantee the battery and also provides a means of getting the owner into the station at stated intervals.

This low-cost guaranteed battery has attracted much patronage to the station. It keeps the buyers of this battery coming to the station, and there are few who do not spend money while at the station for battery inspection.

A location away from the congested retail business district is desirable, L. Essman said. The time and trouble consumed in hunting a parking space, even in a small city, handicaps business in the retail centers, and a station in a de-centralized place is more desirable, he said.

Several years ago his tire manufacturer thought it would be better if he moved to the retail section. The move was quite unprofitable, and has strengthened Mr. Essman's belief in a location accessible yet having ample parking space. The Essman station is near the corporation limit, on a main highway leading to Columbus and the south central portion of Ohio, and between a factory and residential section.

Motor oil is third in gross sales, as shown in an accompanying tabulation. This volume has been built up through pushing complete crankcase changes. There is only one motor oil sign at the station, that a curb standard now leaning against the building front. A simple demonstration is used to sell motor oil.

When an attendant checks the oil he notes its condition. If the need of an oil change is indicated the attendant walks to the driver, and pulls the plunger across the palm of his hand. The attendant remarks that the oil is at the proper level, but looks as though it ought to be changed. Then the attendant returns to the motor, puts in the plunger, and closes the hood. The driver is in the position of making the last move in the demonstration and in most cases will buy a crankcase change, says Mr. Essman.

The stock of bar candy and tobacco is used as a trade puller. Many local drivers starting on a trip, or out for an evening's drive, buy their gasoline at Essman's station because they can obtain tobacco or a bit of candy without the trouble of finding a parking space near a drug store.

In fact a supply of aspirin tablets found a ready sale at the station. A small stock was laid in at the sug-

Gasoline 55 Per Cent

FOLLOWING are the gross sales in each department, on a percentage basis, at the one-stop station of L. Essman & Son, Newark, O., from Jan. 1 through Oct. 9, 1929:

	Per cent
Gasoline	54.65
Oil	8.73
Greasing	1.12
Tires	11.24
Tire repairing	2.75
Accessories	7.67
Batteries	7.49
Battery repairing	3.41
Miscellaneous	2.94
	100.00

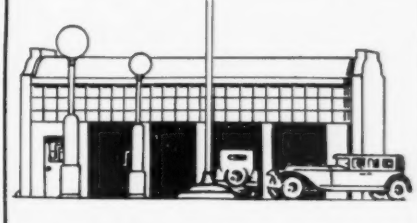
I am Old Man Weather...

* * * * * * * * and I'm just about tuckered out trying to ruin these VERIBRITE signs, but none of my Elements seems to penetrate. No matter how hard my stokers work, the sun just simply can't get hot enough to bleach VERIBRITE signs—my choicest bits of refrigerated air, brought down from the arctic circle can't crack them. Neither rain nor sleet has dulled the luster of these Sinclair signs of genuine porcelain enamel made by VERIBRITE. Go look at these signs; you will find them at a service station just around the corner. You would not believe that they had taken punishment from Old Man Weather for many years!

For signs that beat Old Man Weather See or write—

Veribrite
REG. U.S. PAT. OFF.
Signs

Division of
General Porcelain Enameling & Manufacturing Co.
4105 West Parker Ave. - Chicago, Ill.



TO TROUBLE-FREE STORAGE

the gateway to profits

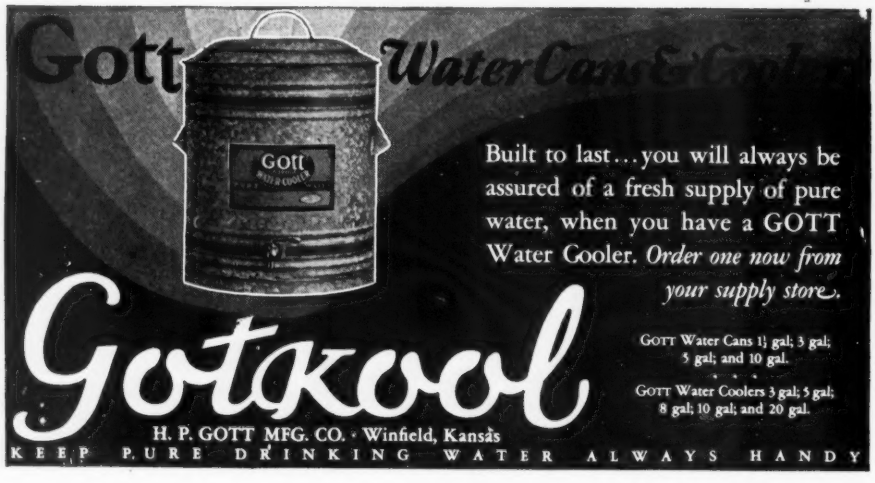
THE Sistersville Guarantee, the bond of satisfactory tank performance, is the gateway to trouble-free storage—the gateway to greater profits.

Sistersville Tanks are guaranteed to be tight and free from defective materials and workmanship. They positively insure a greater return on the investment because of their leak-proof construction—because of their longer life.

[Write for our free illustrated catalog]

SISTERSVILLE TANKS

SISTERSVILLE TANK & BOILER WORKS
Sistersville, W. Va.


Gott
Water Cans & Coolers
Gott
Built to last... you will always be assured of a fresh supply of pure water, when you have a GOTT Water Cooler. Order one now from your supply store.
Gotkool
GOTT Water Cans 1½ gal; 3 gal; 5 gal; and 10 gal.
GOTT Water Coolers 3 gal; 5 gal; 8 gal; 10 gal; and 20 gal.
H. P. GOTT MFG. CO. · Winfield, Kansas
KEEP PURE DRINKING WATER ALWAYS HANDY

gestion of Mr. Essman's neighbor, who was starting out as a drug salesman. The purchase was made to accommodate a friend, but the stock moved rapidly.

Other merchandising efforts are through memberships of the father and son in church, lodge, and civic organizations. In the small cities business is rather personal, and a car owner has a leaning towards his fellow lodge brother who owns a filling station.

Lubrication is done for $1. Mr. Essman has competition at a lower price in Newark, but said he could not do a good job for less than his charge. As the attendant goes over the fittings each one is wiped with a clean cloth before the grease gun is applied. Four or five cloths are used on each auto.

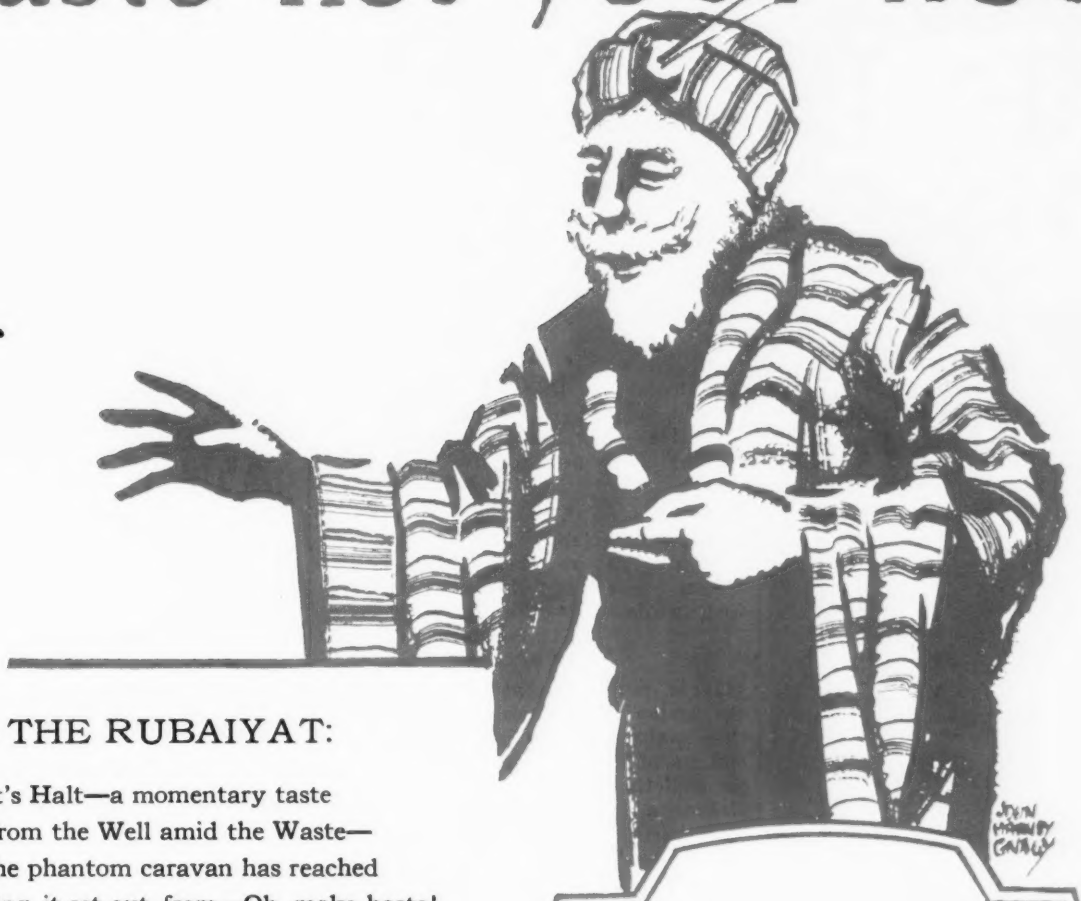
If a shackle is frozen, for instance, all means at the station are used to force grease in, but if these measures fail the motorist is informed of the trouble and advised to go to a garage at once.

At this station gasoline was sold at an overhead cost of 1.9 cents a gallon in 1928. This figure represents an approximate cost only.

The Ford Motor Co. has ordered one 600-horsepower and one 300-horsepower oil electric locomotive from the Ingersoll-Rand Co. for its River Rouge plant. The locomotives will be furnished with General Electric equipment and will be built at their Erie Works.

Ralph R. Matthews, vice president of the Battenfeld Grease & Oil Co., Kansas City, is widely known for his constructive work in the marketing branch of the petroleum industry. He has been connected with the Battenfeld organization for years

Waste not your hour



FROM THE RUBAIYAT:

A Moment's Halt—a momentary taste
Of Being from the Well amid the Waste—
And Lo! the phantom caravan has reached
The Nothing it set out from—Oh, make haste!

Omar, the Tentmaker

AND THUS SPEAKS OMAR, THE REFINER:

A Moment's Halt—a momentary taste
Of Success from the gasoline that's cheap
And Lo! the caravan of motorists has passed
To your competitor—Oh, make haste!

Prosperity turns many men's heads—to the Omar standard of quality. Every Omar jobber knows that his business is built on a foundation that will endure.

60-62	400
58-60	U. S. M.
KerOmar-(41-43	525 E. P. Kerosene)
Fuel Oil	

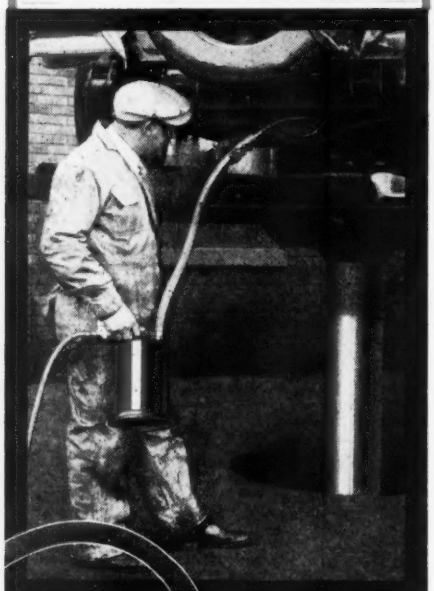
ALL OMAR GASOLINE AND KEROSENE ARE DOCTOR AND CORROSION TEST.

Omar

REFINING COMPANY
Roberts Building
TULSA, OKLAHOMA

Bennett Pumps Corporation
One Hand Portable
AIR-WAY
Flusher
Muskegon, Michigan.

Flushes Gears
EASIER
FASTER
CLEANER



Attaches Directly to Any Air-Line

The Bennett 100% "AIR-WAY" Flusher reduces rear axle and transmission grease to a liquid and removes it more thoroughly and more rapidly than has ever before been done—yet it sells at only a fraction of the price of all previous Flushing-Type cleaners.

It has no moving parts—simply attaches to any air line and alternately injects and sucks out cleansing oil or cutting oil until gears and housing are clean. Its powerful injection stream and suction pull are amazing—the finest, fastest, handiest and most satisfactory flusher in existence—regardless of price.

BENNETT PUMPS CORP., Muskegon, Mich.
SERVICE STATION EQUIPMENT CO., Ltd., Toronto and Winnipeg
REPUBLIC STEEL PACKAGE CO. OF CALIF., Richmond, Calif.
BENNETT EXPORT CORP., 32 Broadway, New York

Write for "AIR-WAY" Bulletin

Lazy Bench

An American, motoring through a small Scottish town, was pulled up for excessive speed. "Didn't you see that notice, 'Dead Slow'?" asked the policeman. "Of course I did," said the American, "but I thought it meant your town!"

—Standard Oil Bulletin

* * *

"If I had known we were going through a tunnel I'd have kissed you."

"Heavens, wasn't that you?"

—Field Flashes

* * *

Motorist—Is there any speed law here?

Native—Naw, you fellers can't get through here any too fast for us.

—Doherty News

* * *

Little girl (radio fan, disturbed at her prayers by scratching on the screen door): "Please stand by, God, while I let the cat out."

—The Independent Eagle

* * *

It is reported that some oil dealers arrive at commercial discounts in this manner, according to a recent edition of the "Weekly Nioma Service Bulletin," official publication of the Nebraska Independent Oil Men's Association:

By the use of two slide rules, a four-inch pipe line strainer and a second hand Saybolt Viscometer, we have arrived definitely at the following method of allowing discounts to the consumer. These prices are discounts from the posted price. Under no conditions will we attempt to tell what the posted price is.

For example, you should give:

1c off to man with hare lip.

2c off to man with wife.

3c off to man without wife.

4c off to man with spot on vest.

5c off to man with one spot on vest and one on pants.

6c off to man whose cousin's wife owns a truck.

7c off to man with tractor catalog.

8c off to man with 1908 Stevens-Duryea.

9c off and 2 cents rebate to man who pays cash.

Gas free to people who use toilet, telephone, wash room and air tower.

* * *

A lady writer asks: "Does a woman prefer a husband who gives way to her, or the other sort?" What other sort?

—Field Flashes

* * *

Again we have one about a Scotchman who was invited to a party and told that each guest was to bring something. He brought his relatives.

—The Water Tower

En-ar-co
MOTOR OIL
White Rose
GASOLINE

YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

The National Refining Co.
Cleveland, Ohio

Box Type Cases

Attractive and serviceable cases of black cobra grain Keratol and lined with red velveteen. Comfortable handle. Plain bottles in separate compartments.

No. 260—Contains twelve 2-oz. long bottles and five ¼-oz. tall grease jars..... $3.20

No. 261—Contains six 4-oz. bottles and five ½-oz. grease jars..... $3.55

No. 262—Contains seven 4-oz. bottles and five grease jars..... $3.80

No. 263—Contains nine 4-oz. bottles and four ½-oz. grease jars..... $4.25

10% discount for Cash

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.

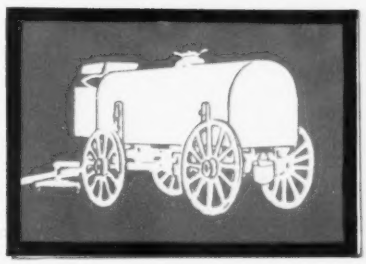
New Stations Building

Note: Material used in this column is principally taken from the newspapers. NATIONAL PETROLEUM NEWS assumes no responsibility for its accuracy.

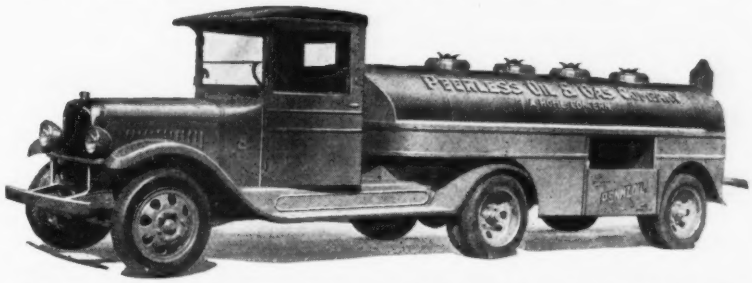
The list as published from week to week cannot be looked upon as indicative of the relative extent to which stations are being built in various parts of the country.

Findlay, O.—Haddad Service Stores, Inc., service station.
Hartford, Conn.—The Texas Co., filling station.
Staten Island, N. Y.—Frank Caracio, filling station.
South Norwalk, Conn.—Maurice Friedson, filling station.
Newton Centre, Mass.—P. J. Keefe, filling station.
Moundsville, W. Va.—J. C. Myers, filling station.
Camden, N. J.—Atlantic Refining Co., filling station.
Luverne, Ala.—Standard Oil Co., bulk station.
Shelbina, Mo.—Central Oil Co., filling station.
Grinnell, Ia.—Ben Tarleton, filling station.
St. Joseph, Mo.—Barnsdall Refining Co., service station.
Waterloo, Ia.—Mid-Continent Petroleum Co., filling station.
Sioux City, Ia.—Standard Oil Co., filling station.
Barron, Wis.—Northern Oil Co., filling station.
Minneapolis, Minn.—Edwin B. Hohn, bulk and filling station.
Providence, R. I.—Shell Petroleum Corp., filling station.
Wellington, Kans.—Phillips Petroleum Co., filling station.
Fordyce, Ark.—Standard Oil Co., filling station.
Fredericktown, Mo.—Shell Petroleum Corp., filling station.
Metz, Mo.—J. D. Liles, filling station.
New London, Ia.—Shell Petroleum Corp., service station.
New York City—Sobol Bros., 1313 Fifth Ave., service station.
Minneapolis, Minn.—James H. Brown, filling station.
Minneapolis, Minn.—Pure Oil Co., filling station.
Tifton, Ga.—Atlantic Refining Co., filling station.
Elizabeth, N. J.—Samuel B. Goldstein, filling station.
Jacksonville, Fla.—Standard Oil Co., filling station.
Wilmington, N. C.—D. W. Williford, filling station.
Worcester, Mass.—John Norton, filling station.
Ridgewood, N. J.—Walter E. Howes, filling station.
Canton, Mass.—Max Mittell, filling station.
Owentown, Ky.—W. E. Arnold, filling station.
Upland, Ind.—Mid-States Oil Co., filling station.
Woodfield, O.—A. H. Moore, filling station.
Beloit, Wis.—E. R. Shaw, filling station.
Maysville, Ky.—Gulf Refining Co., bulk station.
Galesburg, Ill.—Bill & Albert Peterson, filling station.
Lansing, Mich.—Theodore Theodoris, service station.
Danville, Ky.—The Texas Co., filling station.
Topeka, Kans.—Phillips Petroleum Co., filling station.
Quanah, Tex.—The Texas Co., filling station.
El Paso, Tex.—The Texas Co., filling station.
Chariton, Ia.—Lang Garage Co., filling station.
Parkersburg, Ia.—Thale Cramer, filling station.
Lohrville, Ia.—The Dudley Oil Co., filling station.
Spencer, Ia.—Maurer Sales Co., filling station.
Beaver Dam, Wis.—Shell Petroleum Corp., filling station.
Litchfield, Minn.—Phillips Petroleum Co., bulk station.
Marshall, Minn.—Phillips Petroleum Co., bulk station.
Taylor, Tex.—H. P. Pfeil, service station.
Herndon, Kans.—Fred W. Barenberg, service station.
Shelbyville, Ky.—Standard Oil Co., filling station.
Effingham, Ill.—Mrs. Funk, filling station.
Ft. Dodge, Ia.—Shell Petroleum Corp., service station.
Jackson, Mo.—Lead Belt Oil Co., filling station.
Cherokee, Okla.—S. W. Quindt, filling station.
Harvey, N. D.—Standard Oil Co., filling station.

FROM
TANK WAGON TO
SEMI-TRAILER
COLUMBIAN
has
Led the Way



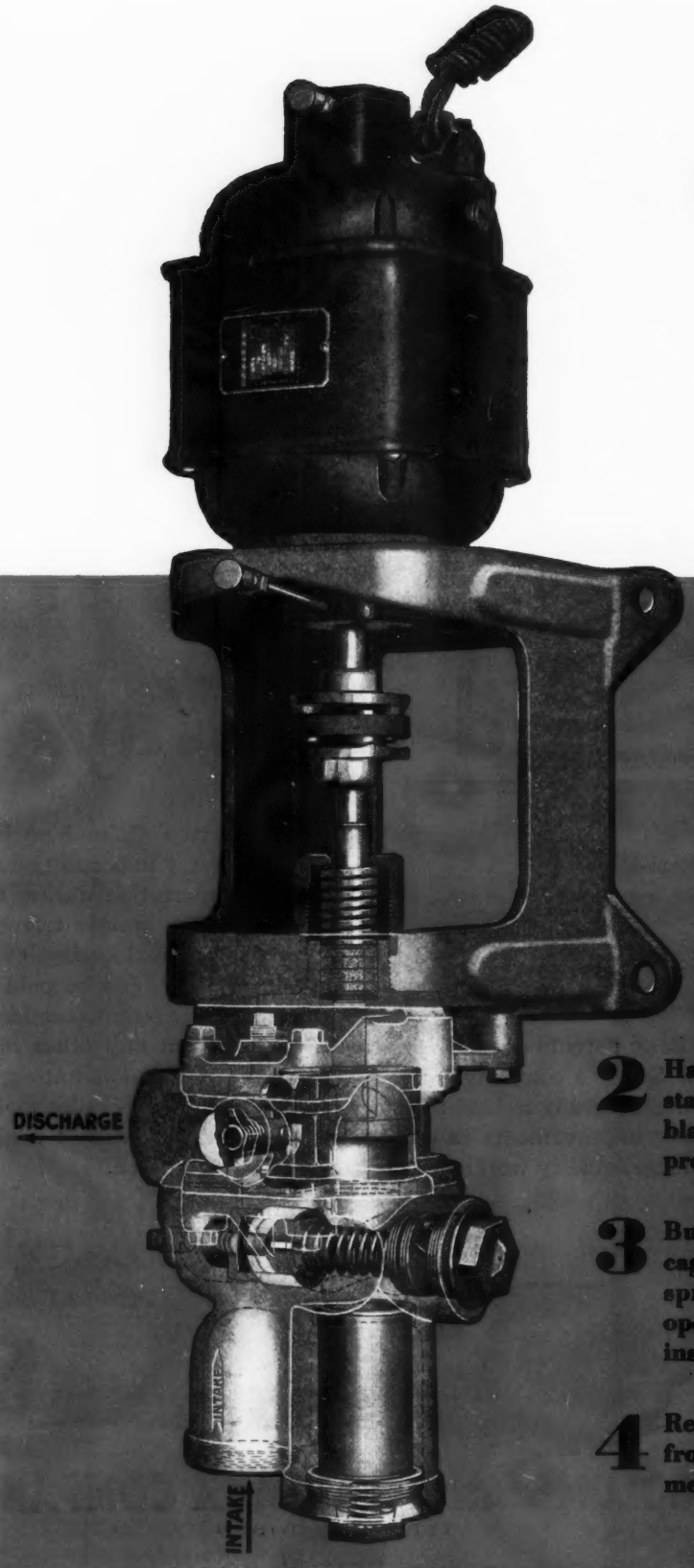
STEP by step Columbian has pioneered every important advance in oil transportation during the last thirty years. No greater tribute to inventive genius, engineering efficiency, and technical skill, can be paid than a mere statement of fact: Columbian holds more basic patents on truck tank construction than any other manufacturer. Surely a company which has developed partition mounting, 3-point support, integrally welded pipelines, the frameless semi-trailer and scores of other improvements can be depended upon for superior engineering knowledge, quality workmanship and superlative service.



COLUMBIAN STEEL TANK COMPANY
EST'D 1894
TANKS FOR THE WORLD
1405-1625 WEST 12TH STREET KANSAS CITY, MISSOURI

Years ahead in *Performance*

The less service



1 Spring type stuffing box has hand-tightened nut and maintains tight seal for long period. Easily tightened or repacked by station attendant when necessary.

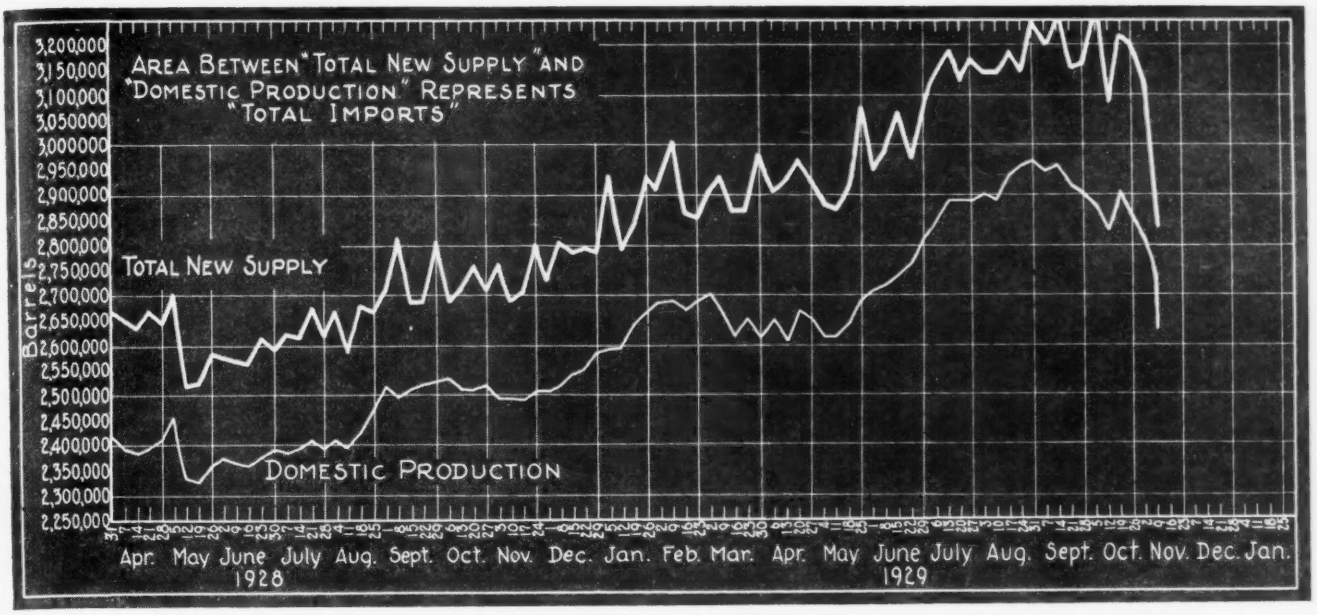
2 Hardened steel rotors are floating-fit on stainless steel shaft. Hardened and ground blades are held against rotor surfaces by pressure cushioned plunger and rocker arm.

3 Built-in by-pass valve has heavy bronze cage; valve is held against seat by coiled spring. Regulating screw fixes point of opening. Dash-pot prevents chattering and insures silent operation.

4 Removable screen is set so flow of liquid is from outside to inside. Dirt falls into sediment chamber where it is easily removed.

THE FERRO MACHINE ANI

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

OKLAHOMA

	Nov. 9	Nov. 2
Allen Dome	20,250	22,350
Asher	5,200	5,300
Blackwell	3,750	3,750
Bowlegs	24,850	26,650
Braman	3,650	3,650
Bristow-Slick	19,000	19,500
Burbank	17,600	17,750
Carr City	9,050	9,950
Cromwell	7,700	7,700
Cushing	15,050	15,200
Davenport	1,300	1,300
Duncan District	8,250	8,250
Earlsboro	61,750	66,600
East Seminole	5,050	5,200
Fox	1,300	1,300
Garber	4,750	4,750
Graham	3,900	3,900
Healdton	12,650	12,600
Hewitt	7,800	7,800
Hubbard	1,700	1,700
Little River	68,900	70,150
Logan County	16,400	15,850
Maud	10,450	10,400
Mission	16,750	17,050
North Okmulgee	11,300	11,350
Oklahoma City	37,350	65,150
Osage (Outside Burbank)	26,550	26,400
Papoose	3,300	3,300
Pearson	900	900
St. Louis	50,300	50,950
Sasakwa	8,200	11,650
Scholem-Alechem	12,800	12,850
Searight	10,500	10,450
Seminole	25,950	27,250
South Okmulgee	7,050	7,050
Thomas	800	800
Tonkawa	9,000	9,000
Wewoka	4,300	4,300
Yale-Jennings	6,450	6,450
Others	55,450	54,450
Total, Oklahoma	617,250	661,450
Decrease		44,200

KANSAS

Augusta-Fox Bush	2,900	2,950
Churchill	5,600	5,700
Eldorado-Towanda	13,100	13,100
Florence-Covert	950	950
Greenwood County	20,500	20,300
Oxford	3,750	3,750
Peabody-Elbing	3,100	3,100
Rainbow Bend	1,100	1,100
Russell	3,000	3,000
Sedgwick County	22,200	22,000
Others	33,800	34,500
Total, Kansas	110,000	110,450
Decrease		450

NORTH LOUISIANA

Bellevue	650	650
Caddo, light	10,700	10,250
Caddo, heavy	3,050	3,100
Cotton Valley	2,500	2,500
De Soto and Red River	2,800	3,100
Elm Grove	500	500
Haynesville	4,850	4,800
Homer	3,750	3,800
Pleasant Hill	1,400	1,100
Urania	5,700	5,700
Others	800	700
Total, North Louisiana	36,700	36,200
Increase		500

ARKANSAS

Champagnolle	5,050	5,400
El Dorado	4,350	4,350
Lisbon	1,200	1,200
Nevada	1,050	1,050
Smackover, light	5,800	5,800
Smackover, heavy	45,900	45,750
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	64,450	64,650
Decrease		200

TEXAS (Outside Gulf Coast)

Panhandle District

Carson County	10,000	9,500
Gray County	63,850	66,200
Hutchinson County	27,150	27,650
Wheeler County	700	700
Others	800	850
Total, Panhandle Texas	102,500	104,900
Decrease		2,400

North Texas

Archer County	18,100	18,250
Burkburnett	9,150	9,100
Electra	11,400	11,500
Iowa Park and K. M. A.	4,550	4,500
Montague-Cooke	16,500	16,600
Wilbarger	30,500	30,500
Others	900	800
Total, North Texas	91,100	91,250
Decrease		150

West Central Texas

	Nov. 9	Nov. 2
Brown County	11,400	11,200
Callahan County	3,500	3,500
Coleman County	8,900	8,800
Eastland-Desdemona	6,800	6,800
Jack County	3,700	3,750
Palo Pinto County	550	500
Shackelford County	10,100	9,950
Stephens County	6,400	6,400
Throckmorton County	600	600
Young County	6,400	6,450
Others	1,400	1,150
Total, West Central Texas	59,750	59,100
Increase		650

West Texas

Crane and Upton Counties	44,300	45,400
Crockett County	2,150	2,200
Howard County	42,700	39,600
Jones County	2,700	2,700
Mitchell and Scurry Counties	2,500	2,450
Pecos County	144,100	137,800
Reagan County	17,200	17,350
Winkler County	108,700	109,700
Others	3,050	2,950
Total, West Texas	367,400	360,150
Increase		7,250

East Central Texas

	Nov. 9	Nov. 2
Boggy Creek	3,400	3,400
Corsicana-Powell	7,100	7,100
Currie	400	450
Mexia	5,000	5,100
Nigger Creek	300	250
Richland	300	300
Van Zandt County	250	300
Wortham	1,000	1,000
Total, East Central Texas	17,750	17,900
Decrease		150

Southwest Texas

Dale	400	400
Laredo District	9,550	9,400
Luling	10,900	10,850
Lytton Springs	900	900
Refugio County	14,400	12,300
Salt Flat	33,900	34,900
Somerset	1,400	1,200
Others	2,700	2,800
Total, Southwest Texas	74,150	72,750
Increase		1,400
Total, Texas (Outside Guf Coast)	712,650	706,050
Increase		6,600

GULF COAST

Coastal Texas

	Nov. 9	Nov. 2
Barbers Hill	22,700	22,000
Batson	1,300	1,300
Big Creek	5,300	6,150
Blue Ridge	2,400	2,500
Boling	1,300	1,400
Damon Mound	500	500
Fannett	3,200	4,250
Goose Creek	5,450	5,400
Hull	9,800	9,950
Humble	17,300	10,900
Orange County	2,500	2,600
Pierce Junction	12,100	12,100
Raccoon Bend	8,500	8,450
Saratoga	1,000	1,000
Somerville	1,700	1,850
Sour Lake	2,400	2,500
South Liberty	6,200	5,900
Spindletop	21,900	22,800
Sugarland	11,650	11,600
West Columbia	6,200	6,400
Others	5,600	5,100
Total, Coastal Texas	149,000	144,650
Increase		4,350

Coastal Louisiana

East Hackberry	2,400	3,900
Edgerly	550	600
Evangeline	1,600	1,600
Lockport	3,850	3,850
Old Hackberry	3,000	1,900
Sorrento Dome	100	150
Sulphur Dome	6,000	6,000
Vinton	4,200	4,600
Others	1,950	1,850
Total, Coastal Louisiana	23,650	24,450
Decrease		800
Total Gulf Coast	172,650	169,100
Increase		3,550

ROCKY MOUNTAIN

Wyoming

Big Muddy	2,200	2,200
Elk Basin	750	750
Grass Creek	2,100	2,150
Labarge	2,250	2,200
Lance Creek	150	150
Lost Soldier	2,950	3,500
Oregon Basin	4,400	4,400
Rock Creek	2,200	2,200
Salt Creek	30,400	31,450
Others	3,900	4,500
Total, Wyoming	51,300	53,500
Decrease		2,200

Montana

Cat Creek	1,250	1,250
Pondera	2,400	2,450
Sunburst	6,900	6,900
Others	50	50
Total, Montana	10,600	10,650
Decrease		50

Colorado

Florence	650	750
Fort Collins	1,700	1,800
Moffat (Craig)	1,100	1,100
Others	1,650	1,700
Total Colorado	5,100	5,350
Decrease		250

New Mexico

Artesia	850	850
Balance Lea & Eddy County	4,850	3,600
Hogback	400	400
Rattlesnake	1,550	1,650
Table Mesa	100	100
Others	400	400
Total, New Mexico	8,150	7,000
Increase		1,150
Total Rocky Mountain	75,150	76,500
Decrease		1,350

CALIFORNIA

Dominguez	8,000	8,000
Elwood-Goleta	29,000	30,000
Huntington Beach	42,000	42,000
Inglewood	23,000	23,000
Kettleman Hills	10,000	10,000
Long Beach	124,000	168,000
Midway-Sunset	71,500	71,500
Santa Fe Springs	163,000	252,000
Seal Beach	22,000	37,000
Ventura Avenue	58,000	62,000
Others	155,500	155,500
Total, California	706,000	859,000
Decrease		153,000

EASTERN

(Including Ill., Ind., Ky., O., W. Va., Pa., and N. Y.)	119,150	119,300
Decrease		150
Michigan	17,200	16,750
Increase		450

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations Week Ended November 8 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Nov. 8
Plants Reporting	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs	58,700 + 9.5	110,968 — 5.2	71,746 + 6.8	43,612 + 7.7	58,096 — 2.8	348,122 + 1.5
Da. Av. Other Oils	8,762 — 9.8	3,547 — 60.1	2,329 — 18.7	2,372 + 16.8	1,778 + 35.2	18,788 — 24.3
GASOLINE—Gallons						
Stocks, Nov. 1	12,574,000	46,760,000	14,529,000	10,777,000	9,970,000	94,610,000
Prod. 11-1 to 11-8	10,594,000 + 1.7	18,044,000 — 10.3	8,746,000 + 8.1	4,112,000 — 4.9	5,508,000 — 5.0	47,004,000 — 3.6
Ship. 11-1 to 11-8	9,959,000 + 2.3	18,363,000 — 9.4	7,621,000 — 13.3	3,288,000 + 7.7	6,808,000 + 5.6	46,039,000 — 4.8
Stocks, Nov. 8	13,209,000 + 5.1	46,441,000 — 0.7	15,654,000 + 7.7	11,601,000 + 7.6	8,670,000 — 13.0	95,575,000 + 1.0
Ratio Sales to Prod.	94.0%	101.8%	87.1%	80.0%	123.6%	97.9%
KEROSENE—Gallons						
Stocks, Nov. 1	10,563,000	6,687,000	2,347,000	28,000	1,216,000	20,841,000
Prod. 11-1 to 11-8	2,053,000 + 9.9	2,467,000 + 5.9	1,676,000 + 12.2	21,000 — 4.5	536,000 — 0.9	6,763,000 + 8.0
Ship. 11-1 to 11-8	1,146,000 + 16.1	1,930,000 + 5.9	1,560,000 + 12.0	13,000 — 40.9	250,000 — 38.6	4,899,000 + 5.8
Stocks, Nov. 8	11,480,000 + 8.7	7,224,000 + 8.0	2,463,000 + 4.9	36,000 + 28.6	1,502,000 + 23.5	22,705,000 + 8.9
Ratio Sales to Prod.	55.5%	78.2%	93.1%	61.9%	46.6%	72.4%
STOVE DISTILLATE—Gallons						
Stocks, Nov. 1	2,597,000	5,911,000	1,776,000	156,000	287,000	10,727,000
Prod. 11-1 to 11-8	441,000 — 8.9	976,000 + 6.3	313,000 — 29.3	108,000 — 3.6	250,000 — 24.2	2,088,000 — 8.7
Ship. 11-1 to 11-8	412,000 — 26.7	1,049,000 + 9.9	279,000 + 35.9	116,000 + 61.1	228,000 + 24.6	2,084,000 + 5.7
Stocks, Nov. 8	2,626,000 + 1.1	5,838,000 — 1.2	1,810,000 + 1.9	148,000 — 5.1	309,000 + 7.7	10,731,000 + 0.03
Ratio Sales to Prod.	93.4%	107.5%	89.1%	107.4%	91.2%	99.8%
GAS OIL—Gallons						
Stocks, Nov. 1	4,224,000	39,509,000	2,815,000	13,939,000	4,456,000	64,943,000
Prod. 11-1 to 11-8	1,313,000 + 9.1	1,564,000 — 43.8	1,001,000 — 48.0	1,465,000 + 80.2	1,601,000 — 23.5	6,944,000 — 21.2
Ship. 11-1 to 11-8	1,429,000 — 4.7	1,678,000 — 42.3	1,001,000 — 57.1	1,049,000 + 32.8	1,506,000 — 49.2	6,663,000 — 36.5
Stocks, Nov. 8	4,108,000 — 2.7	39,395,000 — 0.3	2,815,000	14,355,000 + 3.0	4,551,000 + 2.1	65,224,000 + 0.4
Ratio Sales to Prod.	108.8%	107.2%	100.0%	71.6%	94.1%	96.0%
FUEL OIL—Gallons						
Stocks, Nov. 1	13,638,000	41,871,000	67,189,000	30,485,000	22,068,000	175,251,000
Prod. 11-1 to 11-8	4,392,000 + 13.1	8,410,000 + 8.8	9,613,000 + 20.4	5,185,000 + 3.3	5,885,000 + 0.8	33,485,000 +10.0
Ship. 11-1 to 11-8	4,519,000 — 1.5	8,799,000 — 9.5	9,120,000 + 24.9	6,912,000 + 40.0	6,251,000 + 30.1	35,601,000 +13.5
Stocks, Nov. 8	13,511,000 — 0.9	41,482,000 — 0.9	67,682,000 — 0.7	28,758,000 — 5.7	21,702,000 — 1.7	173,135,000 — 1.2
Ratio Sales to Prod.	102.9%	104.6%	94.9%	133.3%	106.2%	106.3%

Gasoline Produced by Various Methods, Week Ended November 8

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	6,717,000	63.4	11,640,000	64.5	6,952,000	79.5	3,789,000	92.1	1,794,000	32.6	30,892,000	65.7
Cracked	3,259,000	30.8	5,061,000	28.0	1,001,000	11.4	112,000	2.7	2,963,000	53.8	12,396,000	26.4
Natural	618,000	5.8	1,343,000	7.5	793,000	9.1	211,000	5.2	751,000	13.6	3,716,000	7.9
Total	10,594,000		18,044,000		8,746,000		4,112,000		5,508,000		47,004,000	

+ or — columns are % change over previous week.

Gasoline Output and Shipments Fall; Stocks Gain

Staff Special—By Telegraph
TULSA, Nov. 11

GASOLINE production at 93 Mid-Continent refineries reporting weekly operations to NATIONAL PETROLEUM NEWS was reduced 1,700,000 gallons for the first week of November. Shipments dropped off 2,200,000 gallons, however, and gasoline stocks accordingly were increased 900,000 gallons.

Oklahoma and Louisiana-Arkansas refiners were the only ones to reduce stocks.

Crude runs for the week were increased 5000 barrels daily average, while other oils charges were reduced 6000 barrels daily average. Oklahoma and Louisiana-Arkansas were the only districts to reduce crude runs.

Fuel oil stocks were the only ones of the major commodities to be re-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Nov. 8. Change in stocks figures from Oct. 11.

GASOLINE

	Gallons
Production	192,421,000
Shipments	186,158,000
Net change in stocks	+5,263,000
Ratio sales to production	96.7%

KEROSENE

Production	26,590,000
Shipments	20,675,000
Net change in stocks	+5,915,000
Ratio sales to production	77.8%

STOVE DISTILLATE

Production	8,956,000
Shipments	7,789,000
Net change in stocks	+1,167,000
Ratio sales to production	87.0%

GAS OIL

Production	29,698,000
Shipments	29,359,000
Net change in stocks	+339,000
Ratio sales to production	98.9%

FUEL OIL

Production	132,308,000
Shipments	133,126,000
Net change in stocks	—818,000
Ratio sales to production	100.6%

duced. This was due primarily to an increase in shipments although production increased somewhat at the same time. Stocks were reduced 2,000,000 gallons.

Kerosene shipments were only slightly higher than for the last week of October and with production somewhat higher, stocks were increased. Stove distillate production and shipments were almost on an even basis. Gas oil production was lower by almost 2,000,000 gallons and shipments were off almost 4,000,000 gallons, causing stock increase of 200,000 gallons.

Continental to Market New Oil Nov. 14

TULSA, Nov. 9.—Continental Oil Co. on Nov. 14 will place on the market throughout its retail territory its new Conoco Germ Processed motor oil with announcements in newspapers throughout the territory. Every retail station will have a supply of the oil for distribution.

The new oil, described in NATIONAL PETROLEUM NEWS, Oct. 23 issue, page 27, will retail for 35 cents a quart. Additional equipment and improvements have been installed at the Ponca City refinery to make the new oil, and shipments have been going out for some time to various bulk stations for distribution in time for sale when the official announcement is made.

A meeting of sales representatives of the company was held in Ponca City the first week in November to acquaint the salesmen with the new oil. A school was conducted by J. E. Moorhead, sales promotion manager for the germ processed oils; B. E. Sibley, chief lubrication technologist; and Frank Moore special sales representative. Motion pictures of tests made late this summer with a number of automobiles on Pike's Peak were shown the salesmen and division managers.

Messrs. Moore and Moorhead have started on a trip over the company's marketing division via plane to hold similar meetings, and to handle sales promotion work in connection with the introduction of the oil.

Crude Price Changes

OIL CITY—On Nov. 12 Joseph Seep Purchasing Agency reduced Somerset, Ky. in Cumberland lines crude 25 cents, making new price $1.55 per barrel.

At the same time it made a new posting of Somerset grade at $1.29 in Eureka Pipe Line lines.

Last previous change on Somerset was a 15 cent cut on May 22.

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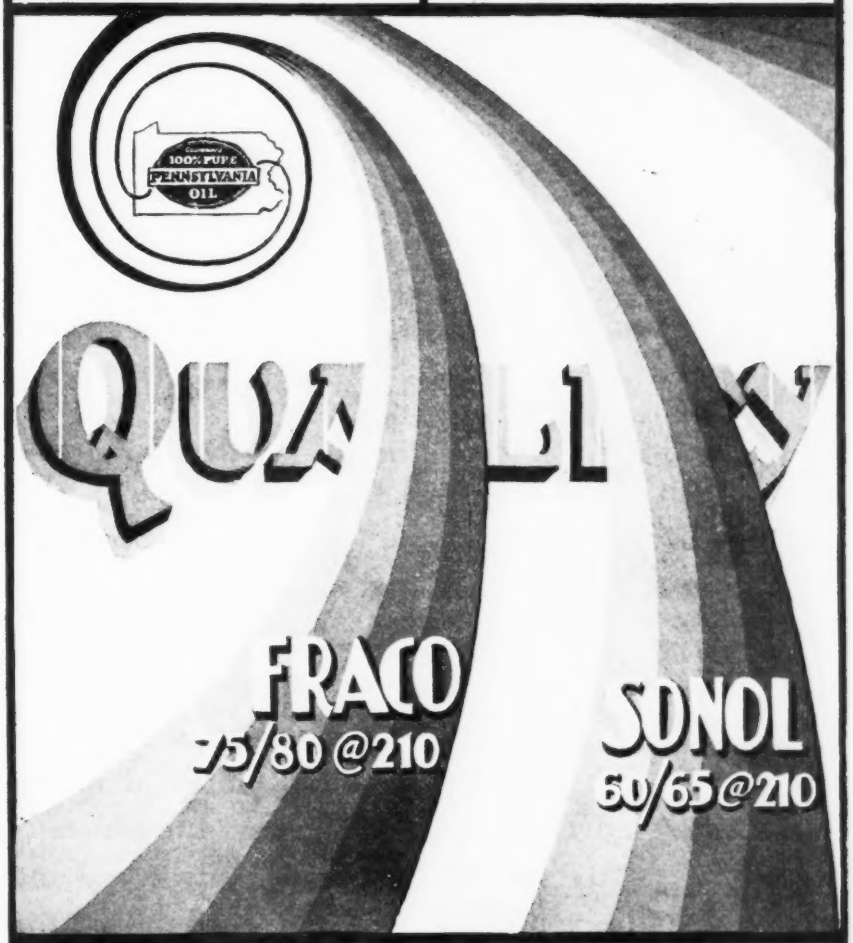
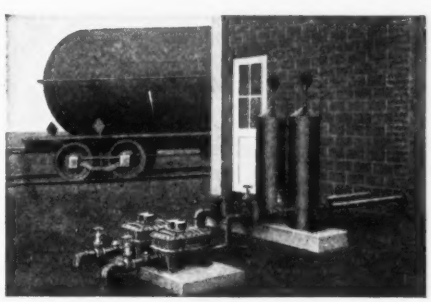
FRANKLIN CREEK REFINERY AT FRANKLIN | DAUGHERTY REFINERY AT PETROLIA



100% PENNSYLVANIA OILS SHARPLES PROCESSED

ADDRESS COMMUNICATIONS TO
W.H.DAUGHERTY & SON REFINING CO.
114 FIFTH AVENUE, NEW YORK.



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Unfavorable Weather Retards Mid-Continent Markets

Staff Special
TULSA, Nov. 9.

THE weather held the Mid-Continent refinery market in its grip during the week of Nov. 4 to 9, and the grip was such that virtually all commodities with the exception of high gravity fuel oils lost some ground.

The weather was just bad enough to restrict gasoline consumption, and to make jobbers wary in buying their gasolines, but not severe enough to stimulate demand for the heating oils and fuel oils.

No export buying was reported either for gasolines or kerosenes. Domestic demand for the latter commodity was light.

Natural gasolines lost some ground with no large buying in the field.

Distillates and gas oil were more freely offered in some quarters although general opinion was that cold weather would quickly set them back on an even keel.

Fuel oils experienced some price fluctuations but they still remained the strongest spot in the market with the exception of bright stocks. Neutral oils were quiet and wax was steady.

Gasolines

The weather was a big factor in the gasoline market the first week of November. In some sections of the Mid-Continent marketing territory weather conditions were not favorable for motoring due to fall rains, while in other sections the lower temperatures influenced consumption somewhat.

In those sections which had not experienced heavy rains, jobbers were buying strictly on a hand-to-mouth basis knowing that now it is only a question of days until winter sets in and their gallonage slumps.

Several of the refiners in Oklahoma made no changes in quotations during the week. Two or three who had been in line with the majority reduced their prices 0.125 to 0.25 cent, while the small number of refiners who had been selling at a range considerably under the majority either kept their prices steady or reduced them slightly in a few instances in order to get business.

Quotations for full specification U. S. Motor on Nov. 9 in Oklahoma ranged from 7 to 7.50 cents a gallon. Resale quotations were at 6.75 cents and up. There was considerable gasoline offered on the market, however, at prices ranging from 6.625 cents up, which did not quite meet all specifications but which was in many instances acceptable to the trade.

North Texas refiners generally were in fair shape because of the recent export buying but orders were reported slow in that district for domestic grades of gasoline, and the market structure generally was not in as firm a position as it was the latter part of October.

Arkansas, Louisiana and Kansas districts remained steady as far as prices were concerned for differential territory shipment, but in some instances slightly lower quotations were made on a group 3 basis.

Demand for naphthas and the 450 e. p. gasolines also was light in every district. Demand for the higher gravity gasolines, however, showed some improvement, a majority of refiners reported.

Natural Gasolines

Demand for natural gasolines after the over the month buying late in October was not sufficient to keep prices from slipping the past week. Grade AA in Oklahoma slipped from 6.75 cents on Nov. 4 to 6.625 cents on Nov. 9. Other grades moved downward by approximately the same fraction.

Several manufacturers attributed the lighter demand to the slowing up of the domestic gasoline market.

Kerosenes

Kerosenes remained in the background of the market picture. Demand was comparatively light and prices were not attractive enough to encourage heavy production. Several refiners accordingly have rearranged their operations to make more distillates in anticipation of a good demand for that product within the next few weeks. One company which had been quite a factor in the kerosene market this week quit making the 41-43 grade but will continue to make a 42-44 grade which it sells as a premium oil.

Stove Distillates, Gas Oil

Distillates were more freely offered the past week as production continued at comparatively high levels for this season of the year; demand was light. Refiners were waiting for another good cold spell in the Middle West to stimulate distillate buying. At the present time jobbers' storage is full and customers have not used up all the goods bought this summer and buying from refineries to replenish stocks has been light.

A majority of refiners making distillates and gas oils of low cold test believe these oils will get good play this winter. Some of them still are storing much of their production in anticipation of this demand. They realize, however, that many jobbers will have to liquidate the stocks they now have on hand before any new buying of consequence can develop.

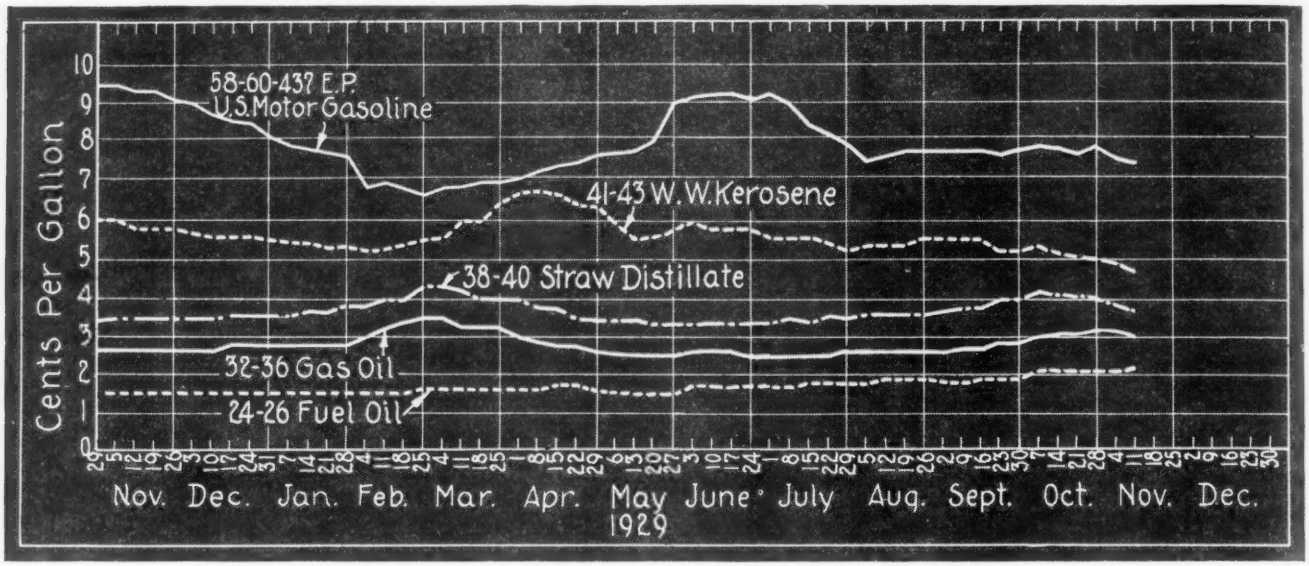
Fuel Oils

All grades of fuel oils were in good demand although the lower gravities, with relatively high cold tests were more freely offered in some quarters. The high gravity, zero cold test goods were comparatively scarce, although one large refiner operating on west Texas crude was understood to have started a widespread selling campaign the past week on goods which had been held in storage. A wide range of prices existed on some grades.

Neutral Oils, Bright Stock, Wax

No changes were noted in neutral

Current Prices of Principal Mid-Continent Refined Products



Prices shown are in Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

oils and bright stocks. Majority of refiners making wax were quoting 3.125 cents a pound and refusing any business under that figure, believing that January and February orders would be placed at higher prices when demand normally improves.

Correction

Information which developed too late to include in the refinery market table published on page 98 of the Nov. 6 issue of NATIONAL PETROLEUM NEWS, indicates that prices of Oklahoma and North Texas natural gasolines, Grade B, BB and C should have been 6.625 cents flat, as of Nov. 4, instead of 6.50 to 6.625 cents as published.

Prices are corrected in the Nov. 4 column in this issue, page 106.

Gulf Coast Lubes Steady

HOUSTON, Nov. 11.—Gulf Coastal lubricant manufacturers continue to maintain recently effective list prices on the various grades of pale and red oils.

A recent tendency to shade prices on individual grades is disappearing. Prices have been so low, manufacturers say, that raw material prices are no longer the basis on which to fix schedules for refined goods. It is necessary, they say, to figure manufacturing costs and other factors in reaching schedules that will show a fair profit; and this they hope to work out.

TULSA, Nov. 9.—Reports here indicate the Barnsdall Refineries, Inc., and an eastern syndicate will construct a plant at Barnsdall to make butyl alcohol.

The Petroleum Chemical Corp. is the name of the new company. Research work is understood to have been conducted at the plant for the past year, and work probably will be started in the near future on the plant.

Butyl alcohol is used in making duco paints and is made primarily from pressure still gases.

Harrison's Mother Dead

HOUSTON, Nov. 8.—Funeral services were held at Lampasas, Nov. 6, for Mrs. W. D. Harrison, mother of Dan J. Harrison, Houston oil operator. Mrs. Harrison died at the home of her daughter, Mrs. J. C. Gardner, of Evant, Texas.

T. H. Bass Dead At Houston

HOUSTON, Nov. 7.—Funeral services for T. H. Bass, veteran Houston oil operator, were held at the late home, 702 Marshall street, Oct. 27. Mr. Bass died suddenly, Oct. 25, at the age of 60 years. He was widely known in Gulf Coastal and East Texas development areas.

Shipments From Southern California

LOS ANGELES, Nov. 7.—Bulk petroleum shipments from Southern California ports for week ending November 2 were as follows (all figures in barrels):

Destination	Fuel	Diesel	Gasoline	Distillate	Gas Oil	Crude	Kero
Pacific for.	762,917	69,222	100,000	.....	.....	147,119	80,741
Atlantic dom.	74,953	.....	416,476	12,693	.....	.....	.....
Atlantic for.	.....	.....	241,981	.....	.....	.....	23,718

Prices 10 Years Ago
Nov. 10, 1919

	Oklahoma	Penna.
58-60 U. S. Motor	16.50–16.75c	20.00–20.25c
80-84 Natural	22.75–23.00c	.....
Kerosene (41-43 Okla.; 47 w. w. Pa.)	9.50–9.75c	12.50–12.75c
Fuel Oil (24-26 Okla.; 38-40 Pa.)	$0.90–$1.00	7.00–7.50c
Crude (Okla. 35-35.9)	$2.25	$4.50
Chicago tank wagon	.....	21.00c

Prices A Year Ago
Nov. 12, 1928

	Oklahoma	Penna.
58-60 U. S. Motor	9.3485c	11.50–12.00c
Grade A Natural	9.25–9.375c	.....
Kerosene (Okla. 41-43; Pa., 47 w. w.)	5.75–6.00c	8.00–8.50c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.65–$0.675	4.625–5.00c
Crude (Okla. 35-35.9)	$1.31	$3.50
Chicago tank wagon	.....	15.00c

Chicago Resale Market

Local T.W. Cut Depresses Spot Market

Staff Special
CHICAGO, Nov. 9

THE most interesting feature of the week in the Chicago resale market was the announcement made by the Sinclair Refining Co. and the Standard Oil Co. of Indiana that, effective Nov. 11, they would reduce t.w. and s.s. prices of gasoline 2 cents in Chicago and suburbs. While this move was not entirely unexpected due to the prevalence of considerable price cutting in the local tank wagon market, it came as a distinct surprise to most of the trade.

This change furnished the main topic of conversation on Nov. 9 and helped create some interest in an otherwise dull gasoline market. Most Chicago traders were of the opinion that this cut, by itself, would have little effect on the spot market. However, the opinion was fairly general that this change was but the forerunner of a general reduction in prices over the Standard of Indiana territory.

Spot gasoline buying was decidedly quiet most of the week. Sellers reported receiving few inquiries for U. S. Motor and then generally in only one and two car lots. Evidently most of the jobbing trade were taking no chances on getting caught with any storage in the event of a tank wagon reduction and were still buying only as they absolutely needed the goods. Reports received from over most of this territory indicated that gasoline consumption still was at a high level for the season.

Spot gasoline prices, which advanced about 0.125 cent last week due to export buying in the Mid-Continent, were slowly sinking back to the prices in effect prior to the advance. Early this week, practically all sellers were quoting at least 7 cents on 58-60 U. S. Motor gasoline. Lower prices kept making their appearance until toward the middle of the week a considerable number of carlot marketers were offering goods at 6.875 cents. The major refiners continued to quote 7.50 cents and the general price range on Nov. 9 was 6.875 to 7.50 cents. However, a few sales were reported at 6.75 cents.

The kerosene market continued to exhibit few signs of life. There was apparently no selling in most quarters, although one or two sellers reported a fair demand. The price range continued downward, with quotations off 0.125 to 0.25 cent over the week. A few quotations were heard as high as 5.25 cents on the 41-43 w.w. grade but practically all sales reported were at 4.50 to 4.75 cents.

Demand for distillates was light this week and this was attributed by most sellers to the mild weather. Goods were considerably more freely offered than for some time past and prices were slowly moving to lower levels. The lack of kerosene demand evidently was responsible for an increased production of distillates. The 38-40 light straw was moving mostly at 3.75 to 4 cents, although a few sales were reported at 3.625 cents and an occasional one at 3.50 cents.

Furnace oil distributors apparently were well stocked with goods and lack of cold weather was keeping demand only at a moderate level. Many of them reported having already purchased the bulk of their November requirements and unless a spell of abnormally cold weather brings an unusually heavy demand from home burner owners, they will not be buying in the spot market this month.

Prices for the zero oils were generally unchanged, although gas oils and one or two grades of fuel oil were being offered more freely at the lows of present price ranges.

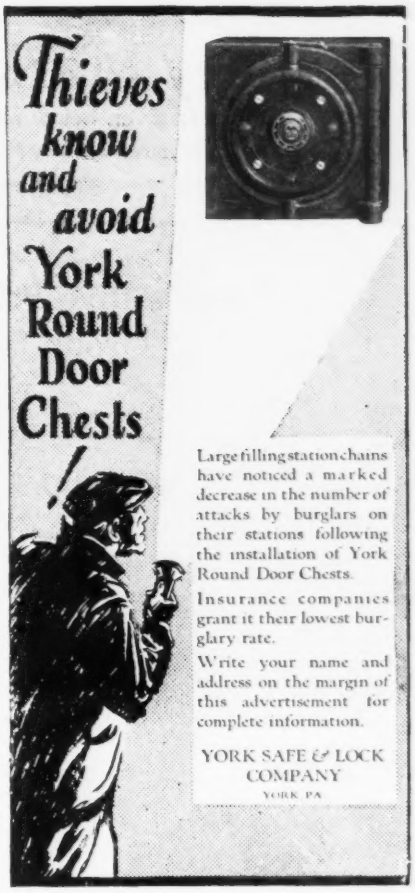
A larger volume of industrial gas oil was being offered in the spot market and buying prices were off about 0.125 cent. One buyer, who late last week was unable to obtain 32-36 U. G. I. under 3 cents, reported it freely offered at 2.875 cents this week and said he obtained a few cars at 2.75 cents.

Mostly fair weather is predicted for the Standard of Indiana territory next week. Temperatures probably will remain near the seasonal normal, although becoming colder toward the end of the week.

Humphreys Given Wider Duties

CHICAGO, Nov. 7.—Announcement was made by the Standard Oil Co. of Indiana Nov. 1 that Robert E. Humphreys, previously vice-president in charge of manufacturing for the Indiana company alone, hereafter will have general direction of manufacturing for the Indiana company and also for their associated and affiliated companies.

Gentry Cash, formerly assistant general manager of manufacturing of the Standard of Indiana, becomes general manager. Both Dr. Humphreys and Dr. Cash are members of the board of directors of the Indiana company.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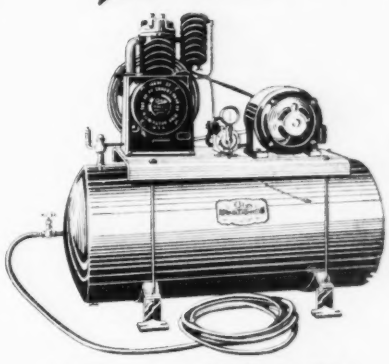

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Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect November 11

	Price F.O.B Group 3		*Price F.O.B. Point of Origin*		*If for Particular Destination*
Oklahoma	7.4250	(Wt. Avg.)	7.4250	(Wt. Avg.)	
Kansas	7.00-7.25				S. O. Neb. & Ind. Ter., etc.
Kansas				(Wt. Avg.)	Kansas only.
North Texas	6.875-7.00		6.75-7.00		
West Texas	6.875-7.00		6.75-7.00		
Louisiana-Ark.	7.00-7.25				Mich., Ohio & Indiana.
Louisiana-Ark.			7.50		State or differential haul.
Indiana-Illinois	7.125-7.50		*		S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	Nov. 11		Nov. 4		Oct. 28	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	25	7.4250	69	7.4764	52	7.5938
60-62 437 e. p. gasoline	2	7.2500	2	7.6250	No sales reported	
60-62 400 e. p. gasoline	1	7.5000	4	7.7813	5	7.8500
64-66 375 e. p. gasoline	No sales reported		1	8.2500	No sales reported	

A wider spread in prices for U. S. Motor developed in Oklahoma the past week with the result that the weighted average prices moved downward. Considerable gasoline slightly off specifications was sold at prices ranging from 6.625 cents up but this was not included in the weighted average compilation and accordingly had no influence on the prices as shown in Platt's Oilgram and NATIONAL PETROLEUM NEWS.

Note: Above weighted average prices compiled from only few spot sales due to the fact that majority of refiners' offices were closed Monday account of Armistice Day.

KANSAS

	Nov. 11	Nov. 4		Oct. 28	
		No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	No sales reported	3	7.5833	2	7.5000

No changes were noted during the week in the price of gasoline for shipment from Kansas refineries to destinations within the state.

GASOLINE AND NAPHTHA

OKLAHOMA	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
48-50 450 e.p. naphtha	7.00 – 7.25	7.25	7.25 – 7.50
50-52 450 e.p. naphtha	7.00 – 7.25	7.25	7.25 – 7.50
56-58 450 e.p. gasoline	6.75 – 7.00	6.875- 7.00	6.875- 7.25
58-60 450 e.p. gasoline	6.75 – 7.00	6.875- 7.00	6.875- 7.25
64-66 390 e.p. gasoline	7.75 – 8.00	7.75 – 8.125	7.75 – 8.125
68-70 350-360 e.p. gasoline	8.00 – 8.25	8.00 – 8.375	8.00 – 8.375

†Prices nominal ††Only one refiner quoting *Quotations only

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

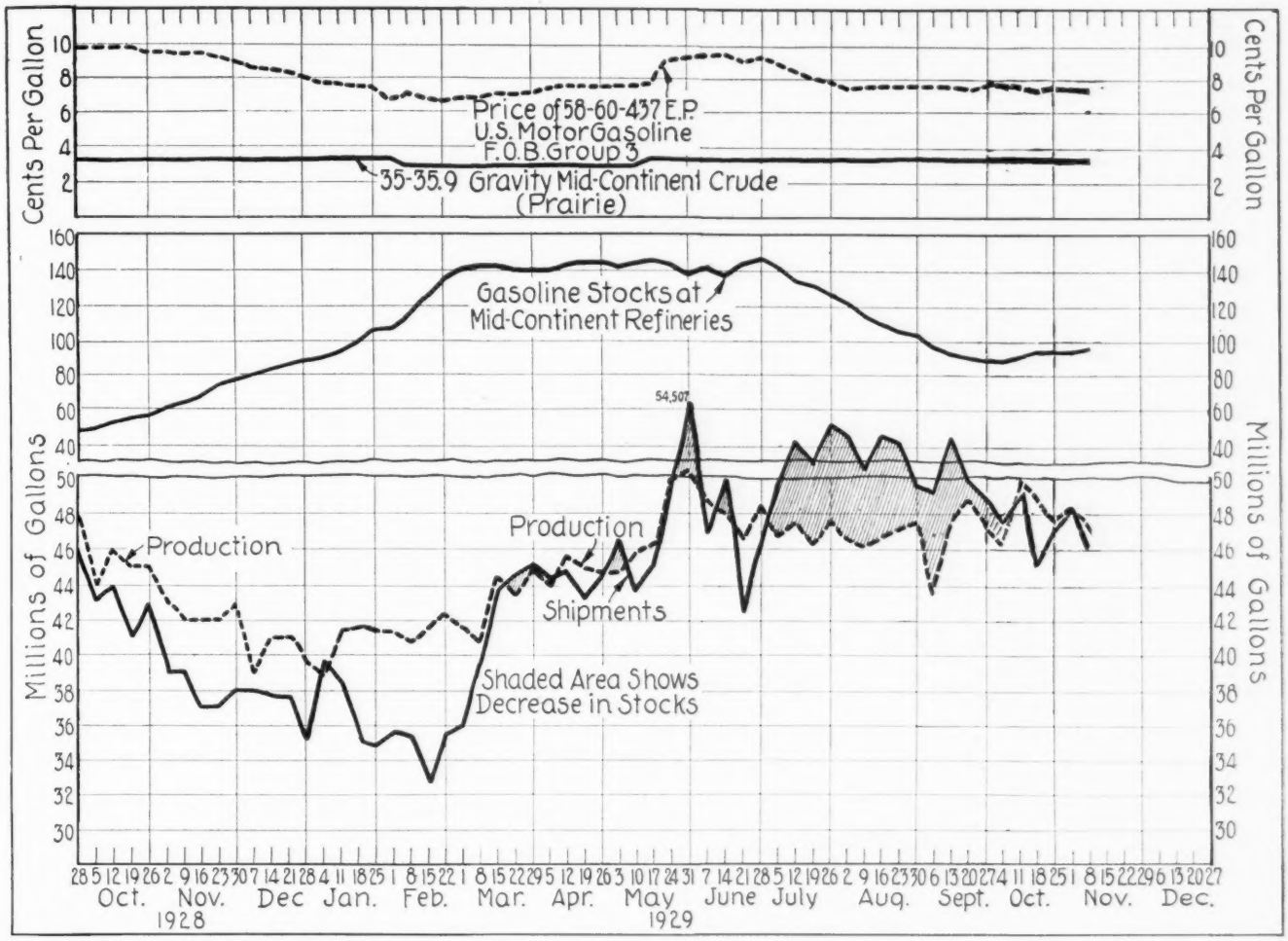
	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
58-60 U.S. Motor, 437 e.p.	6.875- 7.50	7.00 – 7.50	6.875- 7.50
60-62 437 e.p. gasoline	7.125- 7.625	7.125- 7.625	7.125- 7.75
60-62 400 e.p. gasoline	7.375- 7.75	7.50 – 7.875	7.50 – 7.875
64-66 375 e.p. gasoline	7.875- 8.125	7.875- 8.125	7.875- 8.00

(*Continued on Page 106*)

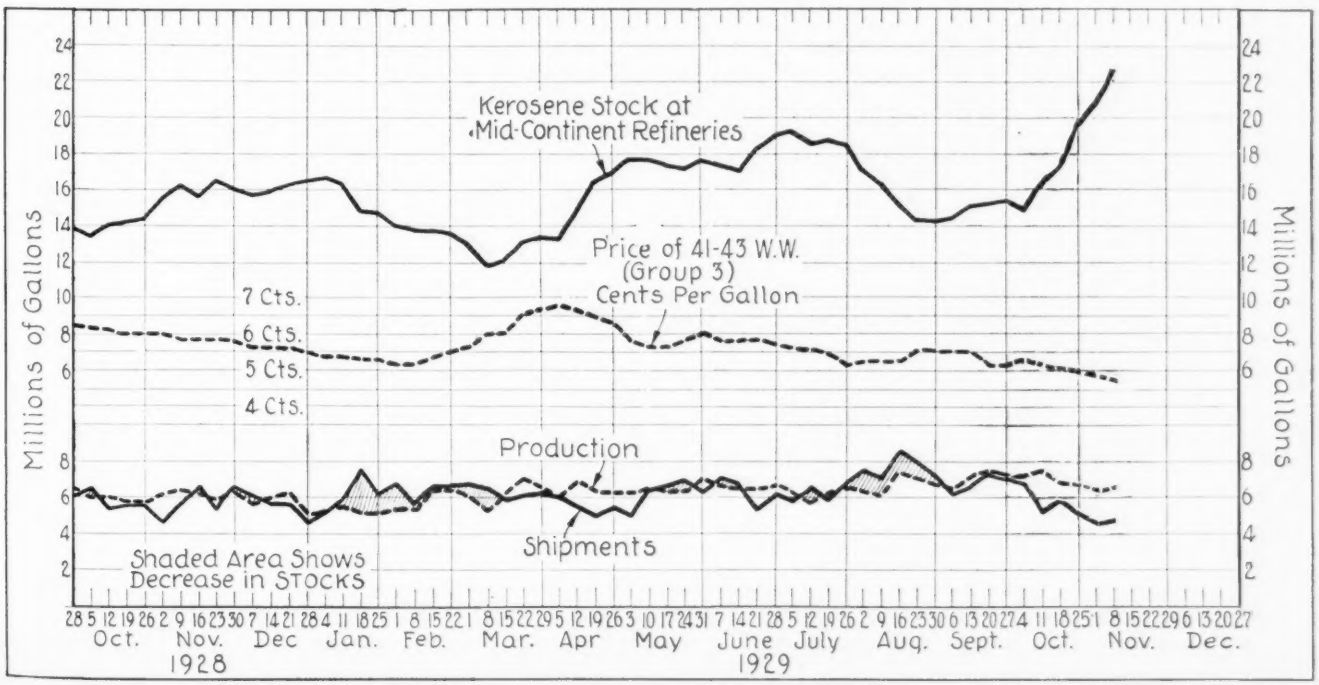
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending November 8

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Gasoline Stocks at Mid-Continent Refineries
54,507
Millions of Gallons
Production
Shipments
Shaded Area Shows Decrease in Stocks
Oct. Nov. Dec Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 98



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

PENNSYLVANIA

	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
52-54 Naphtha	7.75 – 8.00	7.75 – 8.25	8.00 – 8.25
54-56 Naphtha	7.75 – 8.25	8.00 – 8.25	8.00 – 8.50
58-60 U.S. Motor 437 e.p.	8.25 – 9.00	8.25 – 9.00	8.375– 9.00
60-62 400-410 e.p. gasoline	8.75 – 9.50	8.75 – 9.50	9.00 – 9.50
64-66 390 e.p. gasoline	9.25 –10.00	9.25 –10.00	9.25 –10.00
68-70 Str-run gas 350-360 e.p.	10.00 –11.00	10.50 –11.00	10.50 –11.00

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline

Ohio, delivery at any point	10.00	10.00	10.00

KANSAS (F. O. B. refinery Kansas destination)

60-62 400 e.p. gasoline	7.75 – 7.875	7.75 – 8.00	7.75 – 8.00
64-66 375 e.p. gasoline	8.00 – 8.25	8.125– 8.25	8.00 – 8.25

NORTH TEXAS

56-58 450 e.p. gasoline	6.625	6.625	6.625
58-60 450 e.p. gasoline	6.625– 6.75	6.625– 6.75	6.625– 6.75
58-60 U.S. Motor 437 e.p.	6.75 – 7.00	7.00	6.875– 7.00
60-62 400 e.p. gasoline	7.00 – 7.25	7.125– 7.375	7.125– 7.25
64-66 390 e.p. gasoline	7.625– 7.75	7.50 – 7.75	7.50 – 7.625
64-66 375 e.p. gasoline	7.75 – 7.875	7.75 – 8.00	7.75 – 7.875
68-70 350-360 e.p. gasoline	8.00	8.00 – 8.125	8.00 – 8.125

****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**

50-52 naphtha	6.00 – 6.125	6.125– 6.25	6.00 – 6.125
‡58-60 437 e.p. gasoline	6.625– 6.75	6.875– 7.00	6.625– 6.75
58-60 U.S. Motor 437 e.p. gasoline	6.75 – 7.00	6.625– 6.75	6.75 – 7.00

‡Gravity changed from 56-58 to 58-60 Oct. 7.

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

58-60 390 e.p. gasoline	7.50	7.50	7.375

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	7.50	7.50	7.375

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	‡9.00 –10.00	‡9.00 –10.00	‡9.00 –10.25
58-61 375-400 e.p. gasoline	10.00 –11.00	10.00 –11.00	10.00 –11.25
42-45 Engine Distillate 445-480 e.p.	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00

‡For outside state shipment price was 7.25–8.25c on Oct. 21. 7.00–8.00c on Oct. 28 and Nov. 4. 6.50–7.25c on Nov. 11.

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	6.625– 6.75	6.75	6.75 – 6.875
Grade A, 72-79.9, 90% Recovery	6.625– 6.75	6.75	6.75 – 6.875
Grade BB, 84-92, 85% Recovery	6.375	6.625	6.75
Grade B, 76-83.9, 85% Recovery	6.375	6.625	6.75
Grade C, 80-92, 78% Recovery	6.25	6.625	6.75

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	6.625– 6.75	6.75	6.75 – 6.875
Grade A, 72-79.9, 90% Recovery	6.625– 6.75	6.75	6.75 – 6.875
Grade BB, 84-92, 85% Recovery	6.375	6.625	6.75
Grade B, 76-83.9, 85% Recovery	6.375	6.625	6.75
Grade C, 80-92, 78% Recovery	6.25	6.625	6.75

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA	†7.00	†7.00	†7.00
Grade BB	6.625	†6.75	†7.00
Grade C	6.50	†6.75	†7.00

CALIFORNIA

75-85, 375-390 e.p. blend	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50

†Prices nominal ††Only one refiner quoting *Quotations only

BURNING OILS

PENNSYLVANIA

	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
45 w.w. kerosene	6.875– 7.25	6.875– 7.25	6.875– 7.25
46 w.w. kerosene	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
47 w.w. kerosene	7.375– 8.00	7.375– 8.00	7.50 – 8.00
300 mineral seal	7.00 – 7.75	7.00 – 7.75	7.25 – 7.75

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

41-43 w.w. kerosene	4.50 – 4.75	4.625– 5.00	4.625– 5.00

OKLAHOMA

41-43 w.w. kerosene	4.50 – 5.00	4.625– 5.25	4.75 – 5.25
42-44 w.w. kerosene	5.125– 5.50	5.25 – 5.75	5.25 – 5.75

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	5.125– 5.50	5.375– 5.625	5.50 – 5.75
42-44 w.w. kerosene	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00

NORTH TEXAS

40-42 w.w. kerosene	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
41-43 w.w. kerosene	4.375	4.375– 4.625	4.375– 4.625

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	5.25	5.25 – 5.375	5.25 – 5.375
42-44 w.w. kerosene	5.50	5.50	5.50 – 5.625

ARKANSAS (Ark., N. La. and Miss. destination)

42-44 kerosene	5.50	5.50	5.50 – 5.625

CALIFORNIA

38-40 w.w. kerosene	4.75 – 5.75	5.00 – 6.00	5.00 – 6.00

NEUTRAL OIL

PENNSYLVANIA

Vis.		(Viscosity at 70°F.)	
200 No. 3 Assoc. Filt.	24.00 –26.00	24.50 –26.00	25.00 –25.00
180 No. 3 Assoc. Filt.	19.00 –22.00	19.00 –22.00	19.50 –22.00
150 No. 3 Assoc. Filt.	15.00 –18.00	15.00 –18.00	15.00 –18.00
		(Non Viscous)	
34 Grav. 330-340 Flash	7.00 – 7.50	7.00 – 7.50	7.375– 7.75

****OKLAHOMA**

Vis.	Color		(Viscosity at 100°F.)	
100	No. 2	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
150	No. 3	7.50 – 8.25	7.50 – 8.25	7.50 – 8.50
150	No. 4	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
180	No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180	No. 4	8.75 – 9.25	8.75 – 9.25	8.75 – 9.25
180	No. 5	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200	No. 3	9.75 –11.00	9.75 –11.00	9.50 –11.00
200	No. 4	9.00 –10.00	9.00 –10.00	9.00 –10.00
200	No. 5	9.00 – 9.50	9.00 – 9.50	8.75 – 9.50
220	No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220	No. 4	12.00 –12.50	12.00 –12.50	12.00 –12.50
220	No. 5	11.00 –12.00	11.00 –12.00	11.00 –12.00
240	No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240	No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240	No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280	No. 3	14.00 –16.00	14.00 –16.00	14.00 –16.00
280	No. 4	13.00 –15.00	13.00 –15.00	13.00 –15.00
280	No. 5	12.00 –14.00	12.00 –14.00	12.00 –14.00

****Represents Both Sales and Quotations.**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
200	No. 3 Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
500	No. 3½ Pale	11.50 –12.00	11.50 –12.00	11.50 –12.00
750	No. 4 Pale	12.50 –13.00	12.50 –13.00	12.50 –13.00
200	No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300	No. 5½ Red Oil	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
500	No. 6 Red Oil	9.50 –10.00	9.50 –10.00	9.50 –10.00
750	No. 6 Red Oil	11.50 –12.00	11.50 –12.00	11.50 –12.00

CALIFORNIA

Vis.	Color		(Viscosity at 100°F.)	
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

****OKLAHOMA**

190-200 Vis. D at 210° Brt. St.	40.00 –42.00	40.00 –42.00	40.00 –42.00
150-160 Vis. D at 210° Brt. St.	37.00	37.00 –38.00	37.00 –38.00
150-160 Vis. E 210° Brt. St.	34.00 –36.00	34.00 –36.00	34.00 –35.00
600 St. Ref. Olive Green	10.00 –15.00	10.00 –15.00	10.00 –13.00
600 St. Ref. Dark Green	10.00 –12.00	10.00 –12.00	9.50 –12.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	27.50 –29.00	27.00 –29.00	27.00 –30.00
650 Steam Refined	31.50 –32.00	31.00 –32.00	31.00 –32.00
600 Flash	32.00 –34.00	33.00 –34.00	33.00 –34.00
625 Flash	36.00 –37.00	36.00 –37.00	37.00
600 Warren E	32.00 –32.50	32.00 –32.50	32.00 –32.50
600 Oil City E	31.00 –32.00	31.00 –32.00	31.00 –32.00
600 D Filtered	36.50 –37.00	36.50 –37.00	36.50 –37.00
Cold Test Stock, 40-50 p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	50.00 –52.00	51.00 –52.00	51.00 –52.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	50.00	50.00	50.00 –51.00

WAX

PENNSYLVANIA (Per pound, New York)

122-124 white crude scale, a.m.p.	3.375– 3.50	3.375– 3.50	3.375– 3.50
124-126 white crude scale, a.m.p.	3.50 – 3.625	3.50	3.50

****OKLAHOMA**

124-126 White Crude Scale, a. m. p.	3.125– 3.25	3.125– 3.25	3.00

CALIFORNIA

White crude scale, per pound, ton lots, a.m.p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	5.125– 5.25	5.00 – 5.25	4.75 – 5.25
30-34 fuel oil	4.875– 5.00	4.75 – 5.00	4.625– 4.875
28-32 fuel oil	4.875– 5.00	4.75 – 5.00	4.625– 4.875

†Prices nominal ††Only one refiner quoting *Quotations only

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

	Prices Nov. 11	Prices Nov. 4	Prices Oct. 28
38-40 straw distillate	3.75 – 4.00	3.875– 4.00	3.875– 4.00
32-36 ordinary dark gas oil	2.875– 3.00	3.00	2.875– 3.00
32-36 dark zero gas oil	3.125– 3.25	3.125– 3.25	3.00 – 3.25
32-36 straw zero gas oil	†3.25 – 3.375	†3.25 – 3.375	†3.125– 3.375
28-30 zero fuel oil	†$1.125–$1.20	†$1.15 –$1.20	†$1.15 –$1.20
28-30 fuel oil	$1.025–$1.075	$1.025–$1.075	$1.025–$1.075
24-26 fuel oil	$0.85 –$0.875	$0.85 –$0.875	$0.85 –$0.875
18-22 fuel oil, low sulfur	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
18-22 fuel oil, high sulfur	$0.675–$0.725	$0.675–$0.725	$0.675–$0.70

OKLAHOMA

38-40 straw distillate	3.625– 3.875	3.75 – 4.00	4.00
36-38 straw distillate	3.625– 3.75	3.625– 3.75	3.75 – 3.875
32-36 straw gas oil	2.875– 3.125	3.00 – 3.25	3.00 – 3.25
32-36 dark gas oil	2.875– 3.00	3.00 – 3.125	3.00 – 3.125
32-36 straw zero gas oil	3.25	3.25 – 3.375	3.25 – 3.50
32-36 dark zero gas oil	3.125– 3.25	3.125– 3.25	3.25 – 3.375
28-30 zero fuel oil	$1.15 –$1.20	$1.15 – 1.20	$1.15 – 1.20
28-30 fuel oil (in bbls.)	$1.05 –$1.10	$1.025– 1.10	1.05 – 1.10
26-28 fuel oil (in bbls.)	$0.90 – 0.95	$0.90 – 0.95	$0.90 – 0.95
24-26 fuel oil (in bbls.)	$0.875– 0.95	$0.85 – 0.90	$0.85 – 0.90
22-26 fuel oil (in bbls.)	$0.75 – 0.825	$0.75 – 0.825	$0.75 – 0.825
18-22 fuel oil (in bbls.)	$0.65 – 0.70	$0.625– 0.70	$0.625– 0.70
‡16-20 fuel oil (in bbls.)	$0.575– 0.675	$0.575– 0.65	$0.60 – 0.70
14-16 fuel oil (in bbls.)	$0.575– 0.675	$0.55 – 0.65	$0.55 – 0.65

‡Gravity changed from 16-18 to 16-20, Aug. 19.

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	$4.125– 4.25	4.125– 4.375	4.25
36-38 straw distillate	4.00	4.00 – 4.125	4.00 – 4.125
32-36 gas oil	3.25	3.25 – 3.50	3.25 – 3.50
18-22 fuel oil	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
10-14 fuel oil	0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

NORTH TEXAS

38-40 straw distillate	3.625– 4.00	3.625– 4.00	3.625– 3.75
32-36 gas oil, cracked	2.75 – 3.00	2.75 – 3.00	2.75 – 2.875
32-36 St. reduced gas oil	2.75 – 3.00	2.75 – 3.00	2.75 – 2.875
24-26 fuel oil (in bbls.)	$0.65 – 0.70	$0.65 – 0.70	$0.675– 0.70
20-24 fuel oil	$0.60 – 0.65	$0.625– 0.65	$0.625– 0.65
18-22 fuel oil	0.575– 0.625	$0.575– 0.625	$0.60 – 0.625

****WEST TEXAS** (F. o. b. West Texas refinery, for unrestricted shipment)

34-38 gas oil	3.00	3.00 – 3.125	3.00 – 3.125
30-32 gas oil	2.625– 2.75	2.625– 2.875	2.875
28-30 zero gas oil	3.125– 3.25	3.125– 3.25	3.25
18-22 fuel oil	$0.525– 0.65	$0.55 – 0.625	$0.525– 0.625

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	3.25 – 3.50	3.25 – 3.50	3.50
32-36 gas oil, straw	3.25 – 3.50	3.25 – 3.50	3.50
14-16 fuel oil (in bbls.)	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	3.25 – 3.50	3.25 – 3.50	3.50
32-36 dark gas oil	3.25 – 3.50	3.25 – 3.50	3.50
28-30 gas oil	3.125– 3.25	3.125– 3.25	3.125– 3.25
14-16 fuel oil	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80

CALIFORNIA (F. o. b. San Joaquin Valley. At San Francisco 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.40 –$0.60	$0.40 –$0.60	$0.40 –$0.60
14-18 Bunker oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
30-34 gas oil (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90
27 Plus Diesel oil (per bbl.)	$0.80 –$0.90	$0.80 –$0.90	$0.80 –$0.90

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ⅝c to ¾c per pound less.) Two refiners quoting.

Snow White	8.75 – 9.00	8.50 – 8.75	8.50 – 8.75
Lily White	7.75 – 8.00	7.75	7.75
Cream White	6.75 – 7.00	6.75	6.75
Light Amber	3.75	3.75	3.75
Amber	3.50	3.50	3.50
Red	3.25	3.25	3.25

PETROLEUM COKE

****OKLAHOMA**

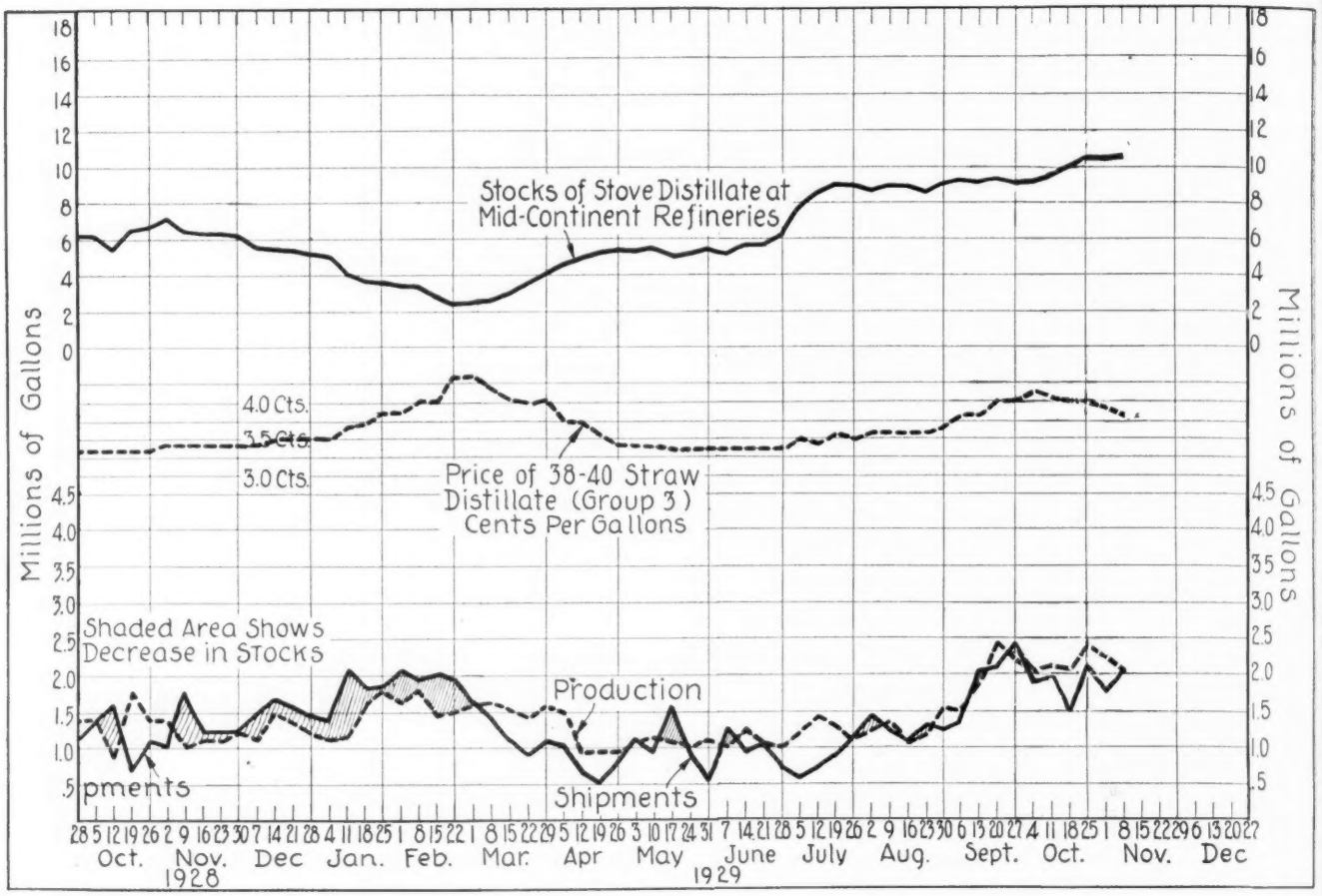
(Per ton in car lots)

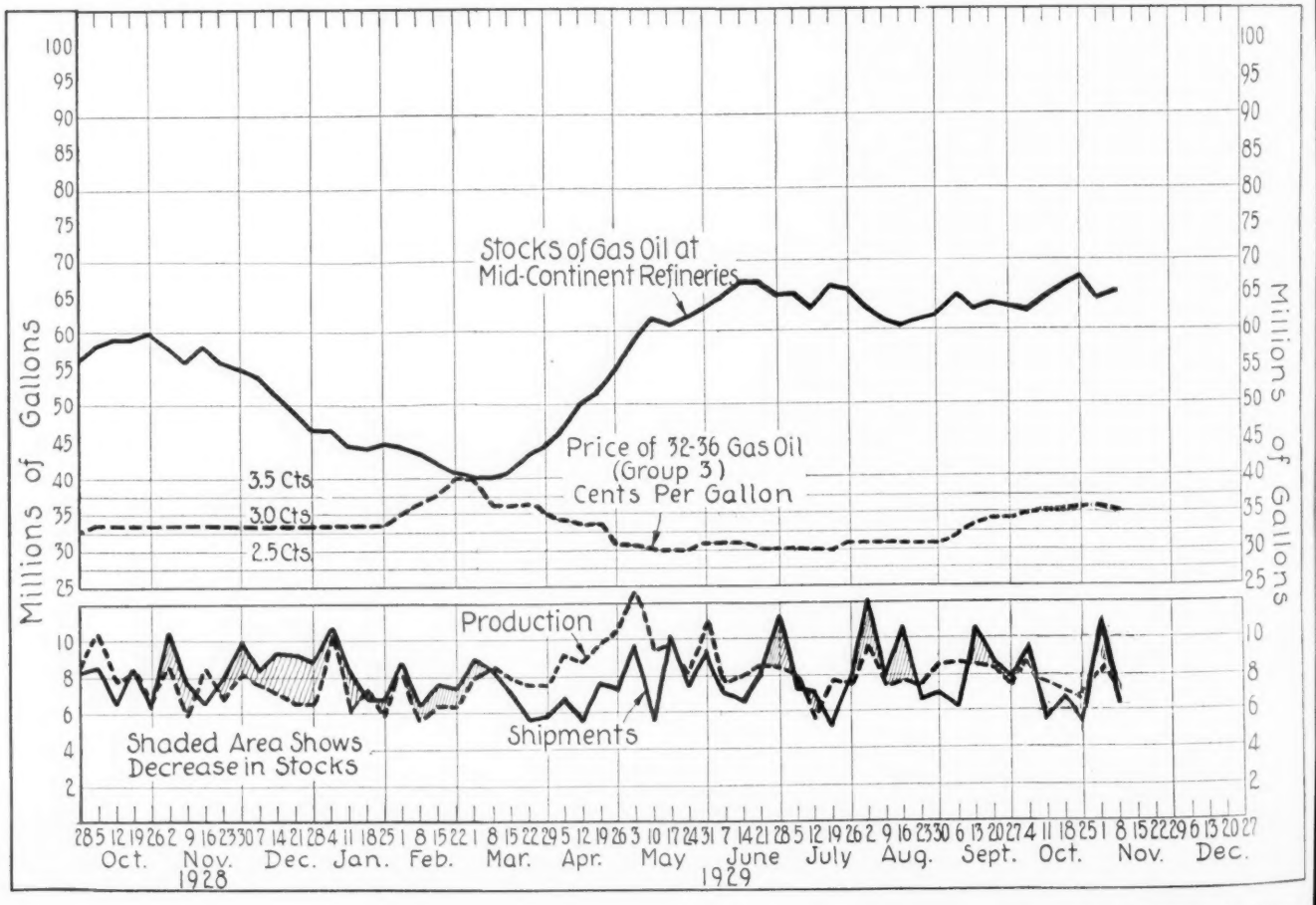
Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

****Represents Both Sales and Quotations.**

Barometer of Mid-Continent Refinery Market—Week Ending November 8

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Stove Distillate at Mid-Continent Refineries
4.0 Cts.
3.5 Cts.
3.0 Cts.
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallons
Shaded Area Shows Decrease in Stocks
Production
Shipments
Oct. Nov. Dec Jan. Feb. Mar. Apr May June July Aug. Sept. Oct. Nov. Dec
1928
1929


Millions of Gallons
Millions of Gallons
Stocks of Gas Oil at Mid-Continent Refineries
3.5 Cts.
3.0 Cts.
2.5 Cts.
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
Production
Shipments
Shaded Area Shows Decrease in Stocks
Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
1928
1929

SHELL

adopts the Por-Pail

SHELL Petroleum Corporation, outstanding representative of the international petroleum industry, has selected the *Por-Pail* as the most perfect pouring container. It recognizes the consumer appeal, the production economy and marketing economy offered with this unit.

Pouring Perfection

The pail pours from a tubular spout that hangs inside when not in use. The vent screw and perfectly adjusted bail assures precision pouring .... smooth, steady and accurate without fuss or muss.

Production Economy

The pail is filled through its large 11¼" opening allowing the producer to inspect contents at all times and cutting filling time in half.

Permanent Utility

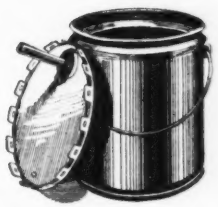
When the contents of the pail are emptied the cover is pried off in 45 seconds, giving the consumer a steel pail of never-ending value for use about the farm, in the garage and around the home.

No other pouring unit offers the opportunities of the Por-Pail. Mounting popularity is proof of its success. By using the attached coupon you can secure a sample, either plain or lithographed for your inspection.

BENETCO

the
Steel Container
Specialists

the Por-Pail



permanent utility

Request a sample now!

WILSON & BENNETT MFG. CO.
6520 S. Menard Ave.
CHICAGO, ILL.

Send a Por-Pail sample (plain or lithographed) with accompanying literature and prices.

Firm .....

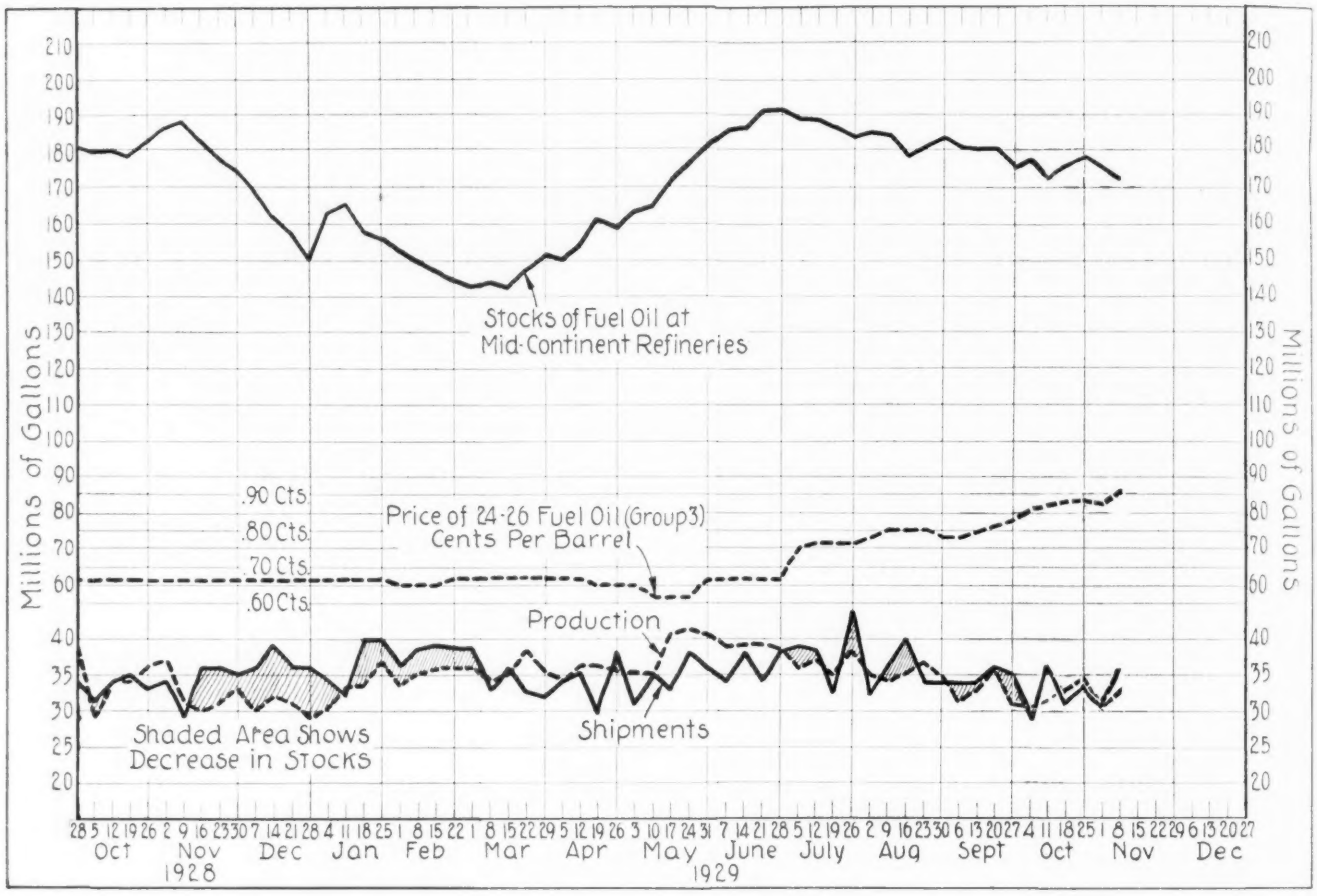
Name .....

Address.....

City..... State.....

Barometer of Mid-Continent Refinery Market—Week Ending November 8

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Fuel Oil at Mid-Continent Refineries
.90 Cts.
.80 Cts.
.70 Cts.
.60 Cts.
Price of 24-26 Fuel Oil (Group 3) Cents Per Barrel
Production
Shipments
Shaded Area Shows Decrease in Stocks
Oct Nov Dec Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
1928
1929

California Refinery Market

Gasoline Drops Before Crude Goes Up

LOS ANGELES, Nov. 9

WITH the restoration of crude oil prices in flush fields to their former schedules, marketing officials of California oil companies are looking forward to a return to normal market conditions within a few weeks.

Although a number of inquiries have been received from eastern buyers for cargoes of gasoline, there were no spot sales reported the past week. Some gasoline was reported to have sold at 8.50 cents, c.i.f. New York harbor, but sales at this price could not be confirmed.

In tank car markets, refiners have been awaiting the outcome of negotiations between operators in the flush fields. Many distributors with full tanks have been forced to unload at low prices but whenever possible, refined oils as well as crude have been stored.

Out-of-state gasoline markets were reported in a very unstable condition the past week as a result of an excess of cheap motor fuel. One or two refiners reported they had lost nearly all of their customers as a result of competition as low as 6.50 cents. Sales also were reported to have been made as low as 6 cents from other sources.

With a fairly tight rein kept on the sale of distress gasoline for shipment within the state, refiners with an excess of this commodity have sold it for out-of-state shipment for almost anything they could get.

Some U. S. Motor was reported to have sold at 8.75 to 9 cents for shipment within the state but general quotations ranged from 9 to 10 cents, exclusive of tax.

Numerous inquiries were received for kerosene the past week; a few spot sales were reported at from 4.75 to 5.75 cents.

Fuel oil shipments to Pacific foreign ports showed a decided increase during the week ended Nov. 2 and it is generally anticipated that activity in this commodity will show further increase in the next few weeks. Some fuel oil sales were reported as low as $0.30 a barrel; quotations ranged from $0.40 to $0.60 a barrel.

Shell Oil Co. was reported to have been low bidder on 350,000 barrels of bunker C fuel oil for the Shipping Board with a bid of $0.59 a barrel. Four companies bid $0.84 a barrel on the Board's diesel oil requirements.

Other refinery products marked time during the past week and quotations were unchanged from the previous week.

Texas Co. Comptroller Marries

ST. LOUIS, Nov. 9.—Mr. and Mrs. George J. Wanstrath of St. Louis have announced the marriage of their daughter, Minnette, to Ira McFarland, Houston.

Mr. McFarland is comptroller of The Texas Co., Houston. The wedding took place at Sierra Madre, Calif., Nov. 2. Mr. and Mrs. McFarland are on a honeymoon trip to Honolulu and will return to Houston some time in December.

Pennsylvania Market

All Products Generally Steady

CLEVELAND, Nov. 11.—All commodities were generally unchanged in western Pennsylvania markets last week from the standpoint of demand. Prices of some products moved up while others went down but the changes were only slight and carried little significance. Steam refined stocks and bright stock, if anything, were features of an otherwise relatively quiet market.

Activity in steam refined stocks for spot shipment continued quiet; it was the future side of this market that commanded the greatest interest. Following the usual month end buying by bright stock manufacturers, ordinarily there is some reaction in prices for filterable steam refined stock. Such has not been the case in the present market, according to reports.

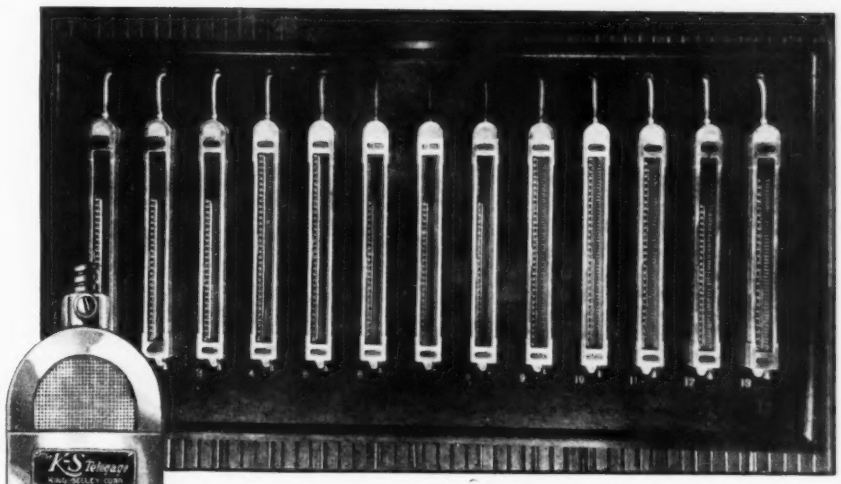
Bright stock manufacturers paid from 26 to 27.50 cents for their November requirements of filterable 600. The market entered November with the minimum for this oil holding at 27 cents and, according to well informed observers, it has not slipped from that point so far. If anything prices have advanced, but there has been little additional buying to test their stability.

However, with the current market holding at around the levels prevailing the last few days of October, some buyers apparently are very much interested in the December market. One large and usually well informed buyer is reported to have offered 27 cents for a sizable order of filterable 600 for shipment over December. And according to one or two refiners several other buyers already have tried to make purchases over this period.

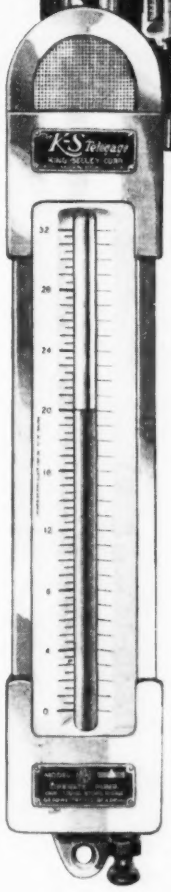
Although bright stock was more freely offered from several sellers last week, the position of some of the larger manufacturers continued extremely good. One of the largest reported being entirely sold up for the balance of November and that it had nearly attained that goal in regard to its December output.

No. 8 color bright stock was offered in one or two directions last week at 50 cents a gallon against a minimum of 51 cents prevailing the week previously. Most manufacturers last week, however, reported quoting a minimum of 51 cents for this oil and reported demand satisfactory.

The demand for burning oils continued brisk last week. Prices for the lower grades of fuel oil moved up close to those prevailing for the 36-40 grade. The demand for a lower cold test oil accounted for this fact, several sellers said.



Battery of thirteen Telegages on instrument board of Peerless Oil Co., Elyria, Ohio, used for checking contents of large gasoline storage tanks.



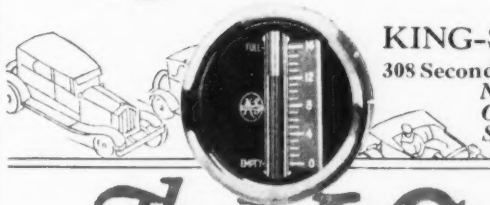
Stop the Leaks that Are Costing You Money

YOUR chance to stop casual leaks of your liquid merchandise is lost when you fail to have a controlling check of the contents of your storage tanks at any time, night or day. For years oil men despaired of keeping a constant inventory and control of their stocks that represented their largest capital investment, until the problem was solved by the K-S Telegage.

The K-S Telegage is a distant-reading gauge which tells at a glance the depth of liquids in storage tanks at any time, night or day. Placed conveniently at a central point, a battery of K-S Telegages gives you that perfect control that enables you to guard your valuable stock against undue wastage, checking errors, and "production losses." The reliability of the Telegage is assured by the fact that it is the product of the world's largest makers of distant-reading gauges.

Let us tell you the names of a few of the leading oil companies that have profited by this better control of their merchandise stocks given them by the K-S Telegage. If you will further give us a full description of your requirements, we will gladly give you our assistance in solving your measuring problems. Give the Baume or specific gravity of each liquid to be measured, the distance of tank from desired control point, and the size of the tank. Write today for complete information.

Approved by Underwriters Laboratories



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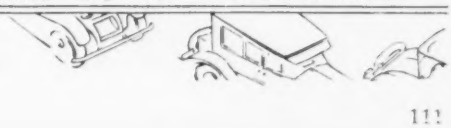
The K-S Telegage

BE CERTAIN WITH THE *K—S TELEGAGE*

Standard factory equipment on three-fourths of all cars selling for $700 or more.



Eastern Domestic Markets

Tank Car Price Cutting Appears in East

Staff Special
NEW YORK, Nov. 9

MARKETS along the Atlantic Seaboard were generally unchanged over a week ago. Gasoline demand was reported fair early in the week although toward the close it was easier in one or two districts. Burning oils were in good demand and kerosene at Philadelphia was quoted higher by two or three companies.

Some gasoline price cutting in the Baltimore district was reported but this was eliminated by the end of the week. One company there, selling in competition to Philadelphia, had sold at lower figures because of the difference in freight. Some sales were made at 8.75 cents. The company announced at the close of the week that the price had been raised to 9 cents, but that it would absorb the difference in freight when shipping in competition to Philadelphia. The netback at the plant will be lower but the buyer's price will be the same as if the goods moved from Philadelphia.

That low-priced material had some effect on the Philadelphia market but prices were not lowered to meet it. Some sellers were talking of lowering their prices around the middle of the week but delayed doing so and said they would remain at 9 cents after the Baltimore company had revised its quotation.

Some of the New York trade looked for an advance in the tank wagon price of gasoline in the Metropolitan area. It was reported that one company which has been selling two and three cents below the posted price, was going to raise its price and that a change in tank wagon would result. This change failed to materialize, however.

New England markets were easier at the close of the week. Sellers there reported demand slow and many of them looked for a 0.25-cent decline before the end of the month. This would bring the price to 10 cents delivered.

At other points on the coast U. S. Motor was steady at 9 cents. Demand has been only fair.

California gasoline was in a good position, despite a decline of 0.25 cent at Baltimore to 9 cents. The reduction was made early in the week when a majority of suppliers made sales at that figure. One company continued to quote 9.25 cents for shipment to nearby points.

The trade reported that the recent return of crude oil prices in several California fields to the price structure in effect prior to the reduction Oct. 21, would probably have no effect on the gasoline price. There was no apparent effect when prices went down and they look for none now.

Some reports were heard of gasoline being sold on the west coast at 5.875 cents, but sales at this figure could not be confirmed. The eastern trade reported U. S. Motor was quoted at 6.25 to 7 cents and believed that anything which moved lower than 6.25 was distress stuff.

Stocks of California gasoline on the east coast have been replenished this past week. Two companies which terminal at Baltimore reported last week that stocks were low through the delay of a boat. One of them was taking orders only from its regular customers and was seeking no outside business.

Some of the low-priced goods that was reported at Baltimore, was held by distributors of California gasoline. One of them reported he had quoted 8.75 cents to another company which was working on a deal with the government. He made the lower quotation only to allow the other company the usual brokerage margin.

Kerosene was in good demand at all points and prices were slightly higher at Philadelphia. Several sellers raised their quotations there to 8 cents. Others, however, were still quoting 7.75 cents.

Gulf Coast Markets

Two Export Inquiries Stimulate Market

Staff Special
NEW YORK, Nov. 9

TWO inquiries, one for gasoline and the other for a year's requirements of Bunker C fuel oil, constituted the major activity in the Gulf markets the past week. Prices for all commodities were unchanged.

The gasoline inquiry was from a French buyer who came into the market late Wednesday afternoon. Approximately 50,000 barrels of 64-66, 375 end point gasoline were sought for December loading. The business had not been placed as late as Saturday.

It was first reported an eastern supplier was working on the business and that shipment probably would be made from a terminal north of Cape Hatteras. The company, however, denied negotiating for the business and some of the trade felt that the inquiry was merely a market "feeler." Should it develop into a sale shipment probably will be made from the east coast as the company inquiring operates a small boat which usually loads from north Atlantic ports. Two days sailing time are saved in this manner.

The inquiry for Bunker C fuel oil, came from a West Indian buyer late in the week. The company was seeking a half million barrels for shipment over next year. One company quoted $0.70 on the business.

There has been some talk the past week of Bunker C fuel in cargo lots selling at lower figures. One cargo was reported moved at $0.61 cents but the sale could not be confirmed and a majority of the trade felt that if it were made, the goods probably were distress stuff or the buyer could not have obtained such a price. Suppliers were asking from $0.70 to $0.75 per barrel.

The inactivity of foreign gasoline buyers has, of course, been the main topic of conversation among the trade. Some of them believe there will be good buying soon since the goods that has been moving on contract are not of sufficient volume to keep storage filled abroad. On the other hand it is generally shown that one of the largest buyers has been under contract with a California supplier for several months and has been getting practically all of his supplies there. Several other companies who usually buy in the open market also are now said to be under contract.

Price of gasolines for export as posted by the Association, still are unfavorable to the buyer as compared with prices prevailing in the Mid-Continent. Goods can be bought in the Mid-Continent and laid down at the Gulf as much as 0.50 to 0.75 cent below Association postings. However, there have been no rumors of gasoline being sold the past week under the regular posted prices.

Tanker rates to the Continent were reported tight at the close of the week particularly for dirty bottoms. Rates for both clean and dirty boats were higher. Several of the trade have reported difficulty in making long time fixtures.

Wax Markets

Scale Lower; Refined Wax Higher

NEW YORK, Nov. 9.—White crude scale was selling 0.125 cent lower at the end of the past week and prices on four grades of fully refined goods were higher. The demand, particularly from foreign buyers, was slow. Small sales were made to domestic buyers for prompt shipment. Most of the trade reported a good movement of contract material.

White crude scale was quoted at 3.25 to 3.50 cents, the low of this range being an 0.125 cent under the previous week's low quotation. Yellow crude scale was quoted at 3.125 to 3.25 cents.

The following are the fully refined grades which advanced together with the new quotations 123-125 A.m.p., 4.125 to 4.25 cents; 125-127 A.m.p., 4.25 to 4.375 cents; 128-130 A.m.p., 4.50 to 4.625 cents and 135-137 A.m.p., 6.25 to 6.375 cents.

Scale prices declined in spite of advances in prices in Pennsylvania and a good market in the Mid-Continent. The lower priced goods were believed to be in the hands of eastern dealers who had purchased long at low prices and were able to meet buyers' bids.

The present situation was believed local to the New York market and several of the trade expressed the opinion that it probably would be of short duration. One of the largest scale refiners in the Mid-Continent was reported sold up and out of the market for the next two months. Stocks in the hands of eastern dealers also were believed to be small and it was impossible to purchase ahead at lower prices.

The movement of fully refined waxes was confined mostly to contracts, a good portion of which went for export.

The movement to the Far East has picked up considerably several of the trade reported, but it was still well below that of normal times. Spot activity from that quarter was expected to increase around the first of the year. One seller reported he had been shipping about 400 tons per month to the Far East for the past three months.

There also has been a good movement to South America, principally to the candle makers in Chile. Most of this stuff has moved on contract but larger spot purchases are looked for the latter part of this month or some time in December when a number of contracts expire.

Skilled Supervision
Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

STEEL
DRUM ACCESSORIES
CORPORATION

BUFFALO, NEW YORK

"The House of Drum Faucets"

Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	Nov. 11	Nov. 4	Oct. 28
New York harbor	8.75	8.75	8.75
Portland district	††10.75	††10.75	††10.75
Boston district	††10.25	††10.25	††10.25
Providence district	††10.25	††10.25	††10.25
Philadelphia district	9.00	9.00	9.00
Baltimore district	9.00	9.00	9.00
Norfolk district	9.00	9.00	9.00
Charleston district	9.00	9.00	9.00
Savannah district	9.00	9.00	9.00
Jacksonville district	9.00	9.00	9.00
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	9.00	9.00	9.00
Philadelphia district	9.00	9.00	9.00
Baltimore district	9.00	9.00 – 9.25	9.00 – 9.25
WATER WHITE KEROSENE			
New York harbor	7.75	7.75	7.75
Philadelphia district	7.75 – 8.00	7.75	7.75
Baltimore district	7.75	7.75	7.75
GAS OIL: 28-34 Gravity			
New York harbor	4.75	4.75	4.75
Boston district	4.75	4.75	4.75
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
.885-890 s.g. 320-330 vis.	$0.82 – 0.97	$0.82 – 0.97	$0.82 – 0.97
.870-875 s.g. 145-155 vis.	$0.74 – 0.89	$0.74 – 0.89	$0.74 – 0.89

Note: Above gasoline prices do not include inspection tax levied in some states
*Nominal and Minimum delivered. †Lighterage 5c per bbl. additional
††Minimum delivered.

New York Export Market

(Lubricating oils are per gal. in bbls.)

	Nov. 11	Nov. 4	Oct. 28
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	54.00 –57.00	54.00 –57.00	56.00 –58.00
600 D filtered	44.00 –46.00	44.00 –46.00	44.00 –46.00
600 Warren E filtered	40.00 –41.00	40.00 –41.00	39.00 –41.00
600 s.r. unfiltered	33.00 –35.00	33.00 –35.00	33.00 –35.00
650 s.r. unfiltered	38.00 –40.00	38.00 –40.00	38.00 –40.00
600 flash, s.r.	41.00 –44.00	39.00 –42.00	40.00 –42.00
630 flash, s.r.	44.00 –46.00	44.00 –46.00	43.00 –45.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –20.00	18.00 –20.00
200 vis. No. 6 color	16.00 –17.00	16.00 –17.00	16.00 –17.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	21.00 –22.00	21.00 –22.00	21.00 –22.00
180 vis. No. 3¼ color	17.00 –18.00	17.00 –18.00	17.00 –18.00
100 vis. No. 2¼ color	16.00	16.00	16.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	30.00 –32.00	30.00 –32.00	30.00 –32.00
500 vis. No. 6½ color	28.00 –29.00	28.00 –29.00	28.00 –29.00
400 vis. No. 7¼ color	26.00 –27.00	26.00 –27.00	26.00 –27.00
300 vis. No. 6 color	23.00 –24.00	23.00 –24.00	23.00 –24.00
200 vis. No. 6 color	21.00 –22.00	21.00 –22.00	21.00 –22.00
MEDICINAL OILS			
.875-880 s.g.	$0.76 – 0.91	$0.76 – 0.91	$0.76 – 0.91
.860-.865 s.g.	$0.58 – 0.73	$0.58 – 0.73	$0.58 – 0.73
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	3.25 – 3.50	3.375– 3.50	3.375– 3.50
124-126 A.m.p.	3.25 – 3.50	3.375– 3.50	3.375– 3.50
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.125– 4.25	4.00 – 4.25	4.00 – 4.25
125-127 A.m.p.	4.25 – 4.375	4.25	4.25
128-130 A.m.p.	4.50 – 4.625	4.50	4.50
130-132 A.m.p.	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
133-135 A.m.p.	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
135-137 A.m.p.	6.25 – 6.375	6.25	6.25
YELLOW CRUDE SCALE			
124-126 A.m.p.	3.125– 3.25	3.25 – 3.375	3.25 – 3.375

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	Nov. 11	Nov. 4	Oct. 28
U. S. Motor	8.50	8.50	8.50
60-62, 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.00	$2.00	$2.00
KEROSENE			
44 water white	8.00	8.00	8.00
41-43 prime white	7.00	7.00	7.00
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	4.00
*30 plus translucent gas oil	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Grade C bunker oil	$0.95	$0.95	$0.95
Grade C bunker oil, cargoes	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75

*Less than ½ of 1% sulphur.

MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
Grade C bunker oil for bunkering purposes, taxes paid	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100°F. cold test 0. Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	6.00 – 6.50	6.00 – 6.50	6.25 – 6.50
200 vis. No. 3 unfiltered pale	8.25 – 9.00	8.25 – 9.00	8.25 – 9.00
300 vis. No. 3 unfiltered pale	9.75 –10.00	9.75 –10.00	9.75 –10.00
500 vis. No. 3½ unfiltered pale	11.25 –11.50	11.25 –11.50	11.25 –11.50
750 vis. No. 4 unfiltered pale	12.75 –13.00	12.75 –13.00	12.75 –13.00
1200 vis. No. 5 unfiltered pale	16.25 –16.50	16.25 –16.50	16.25 –16.50
200 vis. No. 5-6 red oil	7.00 – 8.00	7.00 – 8.00	8.00
300 vis. No. 5-6 red oil	8.00 – 8.50	8.00 – 8.50	8.50
500 vis. No. 5-6 red oil	9.25 –10.00	9.25 –10.00	9.25 –10.00
750 vis. No. 5-6 red oil	11.00 –12.00	11.00 –12.00	12.00
1200 vis. No. 5-6 red oil	15.50 –16.50	15.50 –16.50	16.25 –16.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipment of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	Nov. 11	Nov. 4	Oct. 28
U. S. Motor gasoline	7.50	7.50	7.50
41-43 w.w. kerosene	6.375– 6.50	6.375– 6.50	6.375– 6.50
*26-32 translucent gas oil	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125

*Less than ½ of 1% sulphur.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Nov. 11	Nov. 4	Oct. 28
Gasoline, U. S. Motor, 53-55 Gravity	6.25 – 7.00	6.25 – 7.00	6.25 – 7.25
Gasoline, U. S. Motor-blends and special cuts	7.25 –10.00	7.25 –10.00	7.25 –10.00
Gas Oil, 30-34, per barrel	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.05
Diesel Oil, 27 plus, per barrel	$0.87 –$1.00	$0.87 –$1.00	$0.85 –$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 $1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	Nov. 11 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	40	43–45
Gulf to U. K. or Continental ports*	26–28	30–32
North Atlantic to U. K. or Continental ports*	23–25	27–29
Calif. to North Atlantic ports (not E. of N. Y.)	$1.10	$1.00–$1.05
Gulf to North Atlantic ports (not E. of N. Y.)**	42–44	41–43

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.
**Venezuela loading same rate. For Tampico 3c per bbl. additional.

Absolute Burglar Protection

At Low Cost

First Public Offering of

SPECIAL "NATIONAL" CHESTS

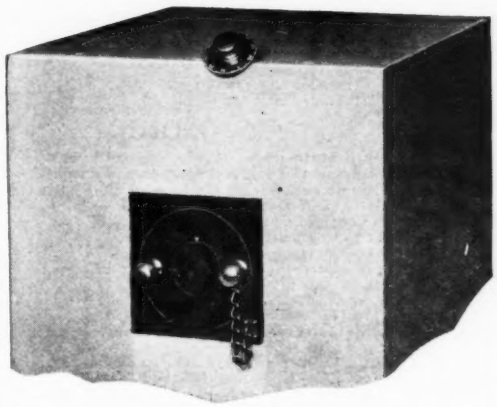
ONLY $37.50 Each

Discounts in Quantities
Express prepaid anywhere in U. S. A.

Ready to install in concrete block. Complete drawing and specification furnished for easy installation.

Already installed by THE STANDARD OIL CO. OF INDIANA in nearly a Thousand of their Stations in Chicago, Milwaukee, Kansas City, St. Louis and Indianapolis.

Months were spent designing this chest to not only withstand any form of attack but to make repair cost after attack trivial. Before purchasing these chests The Standard Oil Co. submitted it to every form of destructive test in their laboratories. Numberless attacks have already been successfully resisted since installation.



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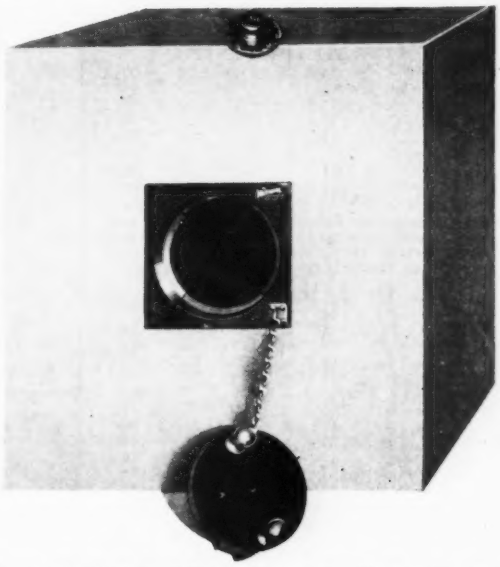
Every National product embodies the highest type construction and workmanship and we unhesitatingly accept orders with the understanding that if for any reason they do not please the purchaser in every way they may be returned with full credit and all expense to be paid by us.



Views of chest installed in concrete block, showing door closed with dial removed, and chest open ready for use.

Read These Six Features Then Act

1. Absolute protection at small cost.
2. Removable dial discourages sledging.
3. Yale lock with special graduated spindle flush with door.
4. Immediate access after attack without services of expert.
5. Repair parts at trivial cost.
6. Eliminates the necessity of high priced insurance.

ESTABLISHED 1883—44 YEARS AGO

THE NATIONAL SAFE AND Lock Company

GENERAL OFFICES—2345 EAST 69th STREET
WORKS—EAST 69th to 70th ST. AND PENNSYLVANIA R. R.

CLEVELAND, U. S. A.

Mail Today

Check Service Desired

THE NATIONAL SAFE & LOCK CO.
2345 East 69th St., Cleveland, Ohio

☐ Enclosed please find my check for.....National Chests. It is understood that if they do not satisfy for any reason they may be returned with full credit.

☐ Please send me further information on the protection offered by National Chests.

Name.....

Address.....

City..... State.....

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t. w. and s. s. markets for a whole year, arranged for quick reference)

These Prices in Effect Nov. 11, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Atlantic City, N. J.	14	2	16	18	13
Newark, N. J.	15	2	17	19	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	15	4	19	21	12
Cumberland, Md.	16	4	20	22	13
Washington, D. C.	15	2	17	19	12
Danville, Va.	16	5	21	23	12
Norfolk, Va.	15	5	20	22	13
Richmond, Va.	15	5	20	22	13
Roanoke, Va.	15	5	20	21	13
Petersburg, Va.	16	5	21	23	13
Charleston, W. Va.	15	4	19	21	13
Keyser, W. Va.	16	4	20	22	13
Parkersburg, W. Va.	15	4	19	21	12
Wheeling, W. Va.	16	4	20	22	13
Charlotte, N. C.	16	5	21	23	13
Hickory, N. C.	16	5	21	23	13
Mt. Airy, N. C.	16	5	21	23	13
Salisbury, N. C.	14	5	19	21	13
Charleston, S. C.	15	6	21	23	13
Columbia, S. C.	16	6	22	24	13

Note: 2c per gallon discount off t.w. price of gasoline to dealers and commercial consumers thru S. O. New Jersey territory.

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	16	4	20	23	14
Cheyenne, Wyo.	17	4	21	24	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah	17.5	3½	21	24	17
Boise, Ida.	19.5	4	23.5	26.5	19
Twin Falls, Ida.	19.5	4	23.5	27.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	20.5
Los Angeles, Cal.	16.5	3	19.5	22.5	15.5
Fresno, Cal.	17	3	20	23	17
San Francisco, Cal.	17	3	20	23	15.5
Reno, Nev.	21	4	25	28	19
Portland, Ore.	17.5	3	20.5	23.5	16.5
Seattle, Wash.	17.5	3	20.5	23.5	16.5
Spokane, Wash.	21.5	3	24.5	27.5	20.5
Tacoma, Wash.	17.5	3	20.5	23.5	16.5

Note: 4c per gal. discount to dealers off t.w. price of gasoline to customers taking tank truck delivery, thru S. O. California territory except 1c discount at Phoenix to dealers only.

S. O. LOUISIANA

Little Rock, Ark.	14	5	19	21	13
Alexandria, La.	‡15	4	‡19	21	†16
Baton Rouge, La.	14	4	18	20	†14.5
Lake Charles, La.	††16.5	4	††20.5	††22.5	†16
New Orleans, La.	*11	4	*15	15	†13
Shreveport, La.	15.5	4	19.5	21.5	†15
Lafayette, La.	**16	4	**20	**22	†14
Bristol, Tenn.	16	5	21	22	14
Chattanooga, Tenn.	15	5	20	20	14
Knoxville, Tenn.	15	5	20	22	16
Nashville, Tenn.	14	5	19	19	16
Memphis, Tenn.	15	5	20	22	12.5

Note: 2c per gallon discount off t.w. price of gasoline to dealers thru S. O. Louisiana territory.

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax.

‡Alexandria gasoline prices include 1c parish tax.

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	15	5	20	22	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	15	5	20	21	15.5
Clarksdale, Miss.	13	5	18	20	12.5
Gulfport, Miss.††	17.5	5	22.5	24.5	14
Jackson, Miss.	16	5	21	23	13
Natchez, Miss.	15.5	5	20.5	20.5	14
Vicksburg, Miss.	15.5	5	20.5	22.5	14
Birmingham, Ala.	15	4	19	21	13
Mobile, Ala.‡	16	4	20	22	15
Montgomery, Ala.*	17	4	21	23	16.5
Atlanta, Ga.	14	6	20	22	†16.5
Augusta, Ga.	14	6	20	22	†15.5
Macon, Ga.	17	6	23	25	†16.5
Savannah, Ga.	16	6	22	24	†15.5

Latest Changes in Tank Wagon Prices

Gasoline Changes

S. O. Ohio—T.w. up 1c, s.s. 2c, Jefferson county, bringing prices back to state-wide schedule of 19c and 20c respectively, **Nov. 9.**

T.w. cut 1c, s.s. 2c, Darke county, both to 18c, including 4c tax, **Nov. 12.**

T.w. up 1c, s.s. 2c, Rawson, to 19c and 20c, **Nov. 8.**

T.w. cut 1c, s.s. 2c, Bradford, and Coolville, both to 18c, **Nov. 9.**

T.w. up 1c, s.s. 2c, Monroe and Noble counties, back to state-wide schedule of 19c and 20c respectively, **Nov. 12.**

S. O. Indiana—T.w. and s.s. cut 2c, Chicago and suburbs, to 17c and 18c respectively, including 3c tax, **Nov. 11.**

S. O. Kentucky—T.w. and s.s. cut 5c, Pensacola, to 18c and 20c respectively, including 6c tax, **Oct. 30.**

S. O. Louisiana—T.w. and s.s. up 2c, Knoxville, to 20c and 22c respectively, including 5c tax, **Nov. 6.**

Kerosene Changes

S. O. New York—Kerosene up 3c, Syracuse, to 15c t.w., **Sept. 21.**

Kerosene price up 2c, Burlington, to 15c t.w., since May 27. S. O. New York had previously advised NATIONAL PETROLEUM NEWS that the price in the city of Burlington was 13c, while outside the city, it was 15c.

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline S.S.	Oil T.W.
Jacksonville, Fla.	16	6	22	24	14.5
Miami, Fla.	17	6	23	25	15.5
Tampa, Fla.	16	6	22	24	14.5
Pensacola, Fla.**	12	6	18	20	14.5

Note: Net price of gasoline to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. NEBRASKA

Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	14	3	17	18	13
Decatur, Ill.	16.2	3	19.2	20.2	13.1
E. St. Louis, Ill.	15.4	3	18.4	17.4	12.2
Joliet, Ill.	16.4	3	19.4	20.4	13.3
Peoria, Ill.	16.2	3	19.2	20.2	13.1
Quincy, Ill.	16.2	3	19.2	20.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	17.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Cross, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5	3	20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.9	2	18.9	19.9	11.6
St. Joseph, Mo.	†16.5	2	18.5	19.5	12.2
Fargo, N. D.	18.9	3	21.9	22.9	15.9
Grand Forks, N. D.	19.2	3	22.2	23.2	16.2
Minot, N. D.	18.9	3	21.9	22.9	15.9
Pierre, S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	4	18.5	19.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month.

In Chicago and vicinity, these discounts apply. Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Ohio state-wide	15	4	19	20	13
Paulding County	15	4	19	20	11
Columbiana, Jackson, Meigs, Vinton, Washington, Gallia and Darke, Counties and *15 competitive pts.	14	4	18	18	13
At †6 Competitive Points	14	4	19	18	13
Van Buren	15	4	19	19	13
Bryan and Findlay	13	4	17	17	13
Payne	11	4	15	15	13

Note: Discount to dealers and commercial accounts generally thru Ohio is 2c per gal. off t.w. price with some exceptions.

†These 6 points are: Hicksville, Arlington, Midway, Mortimer, Mendon and Nevada.

*These 15 points are: Arcadia, Perrysburg, Fostoria, Urbana, Marion, St. Paris, Hamilton, Meeker, Ney, Miller City, Cortland, Bradford, Coolville, St. Johns and Piqua.

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	4	16	19	13
Oklahoma City	13	4	17	20	10
Tulsa, Okla.	11	4	15	19	10
Fort Smith, Ark.†	11	†4	15	17	12
Little Rock, Ark.	14	5	19	21	13
Texarkana, Ark.*	13	*4	17	19	12
Dallas, Tex.	13	4	17	21	13
Fort Worth, Tex.	13	4	17	20	12
Houston, Tex.	9	4	13	17	11
San Antonio, Tex.	11	4	15	19	11
El Paso, Tex.	11	4	15	18	16

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

Greater New York City: Boroughs of Manhattan, Bronx, Queens & Kings	14	2	16	18	15
Borough of Richmond	15	2	17	19	15
Albany, N. Y.	16	2	18	20	15
Buffalo, N. Y.	16	2	18	20	14
Rochester, N. Y.	16	2	18	20	13
Syracuse, N. Y.	16	2	18	20	15
Boston, Mass.	16	2	18	20	15

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Florida, 1/8c on both; Georgia, 1/10c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/50c to 1/2c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa, 7/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above state or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect Nov. 11, 1929

S. O. NEW YORK

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Augusta, Me.	16	4	20	20	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	15

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	22	13
Philadelphia, Pa.	16	*	16	22	13
Allentown, Pa.	16	*	16	22	13
Erie, Pa.	15	*	15	19	13
Scranton, Pa.	16	*	16	22	13
Altoona, Pa.	16	*	16	22	13
Williamsport, Pa.	15	*	15	19	13
Dover, Del.	16	3	19	21	13
Wilmington, Del.	16	3	19	21	13
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	16	2	18	20	15
Fall River, Mass.	16	2	18	20	13
Providence, R. I.	16	2	18	20	13
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	14	2	16	18	13
Camden, N. J.	15	2	17	19	13
Trenton, N. J.	15	2	17	19	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	15	4	19	21	12
Hagerstown, Md.	12	4	16	18	13
Richmond, Va.	15	5	20	22	13
Wilmington, N. C.	15	5	20	22	13
Brunswick, Ga.	16	6	22	24	**15.5
Jacksonville, Fla.	16	6	22	24	14.5

Note: 2c per gal. discount off t.w. price of gasoline on sales to dealers; discount to commercial accounts under contract for one year in accordance with Code of Ethics.

*4-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	15.7	17.2	19
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	**19.7	**21.2	*23
St. Louis	15.6	17.1	18.9
New York		16	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits

Tank Cars	**(Solvent)**
New York refineries	11.50–12.00
Philadelphia refineries	11.50–12.00
Tank Wagon or Steel Barrels	
New York City	16–18
New England	18–19
New Jersey	16–18
Pennsylvania	16–19

Note: 2c off above t.w. prices to large buyers in some instances.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
ONTARIO					
Toronto	19.5	5	24.5	28	20.5
Ottawa	16.5	5	21.5	25	20.5
Cochrane	24.5	5	29.5	..	25.5
Ft. William	22.5	5	27.5	31	23.5
MANITOBA					
Winnipeg	21.5	3	24.5	28	21.5
SASKATCHEWAN					
Regina	26	3	29	33	26
ALBERTA					
Edmonton	27.5	5	32.5	36	27.5
Calgary	23.5	5	28.5	32	23.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	20.5	5	25.5	29	21
Quebec City	21.5	5	26.5	30	22
Three Rivers	21.5	5	26.5	30	22
NEW BRUNSWICK					
St. John	22	5	27	31	24
Moncton	22	5	27	31	24
NOVA SCOTIA					
Halifax	22	5	27	31	24
Sydney	22	5	27	31	24
PRINCE EDWARD ISLAND					
Charlottetown	22	5	27	31	24

Note: In districts surrounding these points 1c additional is added to city price.

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Guaranteed 100% PURE PENNSYLVANIA OIL
Permit No. 26

Pennsylvania Grade Crude *—Swan-Finch Refined*

KEROSENE

Pardon the *superlative* — but Pennsylvania is admittedly the *best* Kerosene produced in the United States. Because it burns hotter and cleaner, it permits a larger flame and gives more light and heat without smoke and smudge. Its quality is prized by users of lamps, lanterns and stoves, whether in the home, stable, incubator or chicken coop. The rural trade prefers Swan-Finch Pennsylvania Kerosene.

CYLINDER STOCKS—635 *Flash*

Swan-Finch Cylinder Stocks—refined at Warren—even "peaks" most Pennsylvania Cylinders—and that's praise indeed! Only from Pennsylvania Grade Crude can Cylinder Stocks with a flash of 600, or above, be made. Hence the world demand.

600 STEAM REFINED STOCK

Superior in filtering qualities, Swan-Finch 600 Fire, which has a flash of 540-550, is unexcelled for the manufacture of Bright Stock—and in turn for Motor Oil.

Write, wire or 'phone for prices and deliveries

SWAN-FINCH REFINING COMPANY
205 E. 42nd Street, New York

SWAN FINCH
100% Pennsylvania Oils

Gone are the Bugaboos of Car Greasing

The U. S. Electro Hy-Press Grease Gun

Lost Time "Bugaboo"

The Red Top Greaser is a strictly one-man, electrically operated unit—mounted on easy-running truck—can easily be moved to pit, rack or lift. "Pressure shot operation"—fast pumping.

Frozen Bearing "Bugaboo"

3500 pounds pressure remains on fitting without running the Red Top Greaser. This permits operator to use both hands to free the bearing—to operate hand bar or rock car.

Cold Weather "Bugaboo"

Heat generated in air compressor keeps grease in the booster pump at the right working temperature. Works smoothly in cold weather, as well as in the summertime.

Leaky Hose "Bugaboo"

Grease hose is made of metal, fabric, and rubber, assuring long wear and flexibility. Hose protected against excess pressure (over 3500 pounds) by by-pass valve that forces the grease back into container.

Excess Grease "Bugaboo"

Combination valve and switch gives "pressure shot" operation, positive nozzle control, and regulation of grease flow. Greater cleanliness and economy of grease is the result.

with the Red Top Greaser

THE real bugaboos and profit stealers of car greasing fade away forever, when the U. S. Electro Hy-Press Grease Gun (better known as the U. S. Red Top Greaser) gets on the job.

Whether it is used by the service station, garage, car dealer, truck, fleet or bus operator, this popular U. S. Grease Gun saves time, labor, and chases away the bugaboos of car greasing.

Send coupon for detailed information.

Check information wanted:

Greasers ☐ **Paint Spray** ☐

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Cable Address: Widbloco, all codes

Manufacturers of Air Compressors, Paint Spray Units, Car Washing Systems and High Pressure Grease Guns

Crude Oil Prices (in Effect Nov. 11, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS
(All Penna. Crude prices effective Oct. 1, 1929)

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District) *$3.05
Bradford District Oil in National Transit Lines (Bradford District) *3.05
Penna. Grade Oil in National Transit Lines (Other Pennsylvania) *3.05
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) 3.00
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) 2.90
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district) 2.70
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective May 22, 1929) 1.90
Corning, O., heavy grade (Effective May 22, 1929) 1.80
Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective May 22, 1929) 1.80
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 29, 1929) $0.60

***Oil run prior to July 1, 1929 is $3.00 per bbl.**

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines (Effective Oct. 7, 1929) $1.70

MICHIGAN
(Posted by Dixie Oil Co.)

Traverse and Dundee (Muskegon):

32-32.9	$1.25	39-39.9	$1.60
33-33.9	1.30	40-40.9	1.65
34-34.9	1.35	41-41.9	1.70
35-35.9	1.40	42-42.9	1.75
36-36.9	1.45	43-43.9	1.80
37-37.9	1.50	44 and above	1.85
38-38.9	1.55		

(Posted by Pure Oil Co.)

Midland, Midland County $1.70

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.
Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.83

CANADIAN CRUDE
Posted by Imperial Oil Refineries, Ltd.

Petrolia $2.20
Oil Springs 2.27

OKLAHOMA, KANSAS and NORTH TEXAS
Prices of Pariie Oil & Gas Co.
(In Oklahoma, Kansas, North and East Central Texas)
Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.
(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see.

Iatan district $0.93
Corsicana heavy 0.80
Luling 0.90
Mirando 0.90

Carter Oil Co.
(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS
Humble Oil & Refining Co.
Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS
Humble Oil & Refining Co.
Effective May 20, 1929

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.70	25-25.9	$0.74
26-26.9	$0.78	32-32.9	$1.02
27-27.9	0.82	33-33.9	1.06
28-28.9	0.86	34-34.9	1.10
29-29.9	0.90	35-35.9	1.14
30-30.9	0.94	36 and above	1.18
31-31.9	0.98		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler., and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell.

SOUTHWEST TEXAS
(Posted by Humble Oil & Refining Co.)
Effective May 20, 1929

Mirando $0.90
Salt Flat 1.25

NORTH LOUISIANA—ARKANSAS FIELDS
Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto and **Cotton Valley.
Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24 ..... $0.85
do 24 and above 1.00
Bellevue 1.30
*Urania, La 1.10
†East El Dorado 0.75

*Posted by Louisiana Oil Refining Corp.
†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-Eldorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS
Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.
Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL
Posted by Humble Oil & Refining Co.
Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only

Prichard Heads Gulf's Port Arthur Works

HOUSTON, Nov. 9.—George L. Prichard, of Pittsburgh, will become general manager of the Gulf Refining Co.'s Port Arthur plant, Dec. 15, succeeding John W. Tryon, who will retire at that time after 23 years of service. Mr. Prichard was formerly of Port Arthur but was transferred to Pittsburgh a year ago.

Mr. Tryon was manager of the Gulf plant at Port Arthur for 22 years and for one year has held the title of general manager. His retirement probably will be followed by a trip to Europe, after which it is rumored he may settle on his Pennsylvania estate. Mr. Tryon refused to discuss plans further than to say that his retirement was definite.

In his management at Port Arthur, Mr. Tryon has seen the Gulf refinery grow from a plant of 10,000 barrels daily capacity to 150,000 barrels, one of the largest in the world.

Other changes announced in the Gulf's refinery organization, as first made known through Vice President Charles B. Buerger at Pittsburgh, include the naming of Charles R. Stevenson, formerly purchasing agent, to be Port Arthur plant manager; transfer of John G. Glasgow, chief engineer at Port Arthur, to Pittsburgh. William A. Slater continues as general superintendent of the Port Arthur, Fort Worth and Sweetwater plants.

Crude Price Changes

SAN FRANCISCO—On Nov. 4 Standard Oil Co. of California restored prices at Seal Beach which had been in effect there previous to the cut of Oct. 21, indicating an advance of from 40 to 75 cents per barrel.

On Nov. 8 the company restored prices at Signal Hill and Santa Fe Springs which had been in effect in those two fields previous to the cut of Oct. 21. The new posting in Signal Hill amounts to an advance of from 40 to 75 cents, and in Santa Fe Springs, an advance of from 49 cents to $1.05 per barrel. For new prices, see crude price table in this issue.

* * *

LOS ANGELES—On Nov. 4 Union Oil Co. advanced its prices for Seal Beach crude, meeting the advance of the Standard of California.

On Nov. 8 it restored prices in Ventura Avenue to those in effect previous to the Oct. 21 cut. The Nov. 8 change amounted to an advance of from 30 to 74 cents per barrel.

DEPENDABILITY

The Niagara meter never forgets—never jots down wrong totals—never delivers uncounted gallons of gasoline or oil that cut into profits. If the Niagara registers 50, fifty gallons have gone through—if 50,000, fifty thousand gallons have been delivered, and recorded so they'll be paid for. It is accurate.

The Niagara installed today is installed for years from now—its dependability is permanent. It is "rugged" structurally and simple mechanically. Send today for the new catalog of these familiar meters.

BUFFALO METER COMPANY
2889 Main Street
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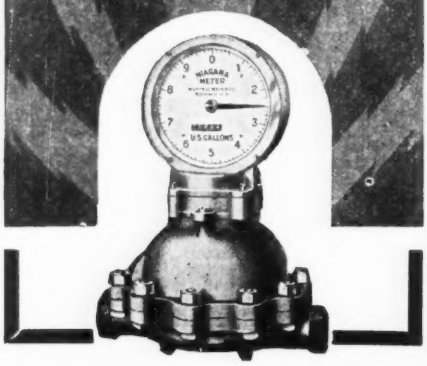

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Tear out this Coupon and mail it today

Make of Truck..... Size Tank Required.....

Other equipment on which you may send prices.....

Name..... Address.....

Crude Oil Prices (in Effect Nov. 11, 1929)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A	$1.30	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.49	40-40.9	$1.69
36-36.9	1.53	41-41.9	1.73
37-37.9	1.57	42-42.9	1.77
38-38.9	1.61	43-43.9	1.81
39-39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29-29.9	$1.10
" " 30-30.9	1.15
" " 31-31.9	1.20
" " 32-32.9	1.25
" " 33-33.9	1.30
" " 34-34.9	1.35
" " 35-35.9	1.40
" " 36-36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Big Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont.	1.65
Sunburst, Mont.	1.75
‡Hogback, N. Mex.	1.70
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Alamitos Heights Huntington Beach Signal Hill Seal Beach	Inglewood Torrance	Olinda-Brea Canon †Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	.....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	.....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	.....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	.....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	.....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	.....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	.....	.....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	.....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	.....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	.....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	.....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	.....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	.....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	.....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	.....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	.....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	.....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	1.30	1.30	....	....	....	1.25	.....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	.....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	.....	1.40	1.40	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	.....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	.....	....	1.52	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	.....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	.....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	.....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	.....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	.....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	.....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	.....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Richfield posted only to 30-30.9 at $1.25.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Nov. 11	Nov. 4
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.50-4.50
Liquid Chlorine, tank cars, wks, lb.	3.50-5.00	3.50-5.00

Compounders' Supplies

	Nov. 11	Nov. 4
Vegetable Oils		
Linseed carloads, spot, lb.	15.30	15.30
Tanks, spot	14.50	14.50
Soya Bean, Tanks, coast, lb.	10.50-11.00	10.50-11.00
Oleic Acid		
Distilled, tanks, lb.	9.75	9.75
Distilled, bbls, lb.	10.625	10.625
Saponified, tanks, lb.	9.75	9.75
Saponified, bbls, lb.	10.625	10.625
Lard Oils		
Prime Winter Strained, lb.	15.25	15.25
Extra Winter Strained, lb.	12.75	12.75
Extra, lb.	12.50	12.50
Extra No. 1, lb.	12.00	12.00
No. 1, lb.	11.75	11.75
No. 2, lb.	11.50	11.50
Tallow oil, lb.	11.00	11.00
Neatsfoot Oil		
Pure, bbls, lb.	14.50	14.50
Extra, bbls, lb.	12.25	12.25
No. 1 bbls, lb.	12.00	12.00
Cold Pressed, lb.	12.50	12.50
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	70	70
Light Pressed, tank cars, N. Y., gal.	58-60	58-60
White bleached, gal.	76	76
Yellow bleached, gal.	71	71
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam distilled turpentine, N. Y., gal.	53	53
Steam distilled turpentine, Savannah, gal.	53	53
Gum turpentine, N. Y., gal.	56.50	56.50
Gum turpentine, f.o.b. cars Savannah, gal.	50.50	50.50
Wood Rosin F, N. Y., bbl.	$8.05	$8.05
Wood Rosin F, Savn'h, bbl.	$7.25	$7.25
Gum Rosin B, N. Y., bbl.	$9.00	$9.00
Gum Rosin B, f.o.b. cars Savannah, bbl.	$8.15	$8.15
Rosin oil, pure, gal.	61	61
Rosin oil, compounded, gal.	51	51
Pine Tar		
Kiln burnt, bbl.	$13.00-14.00	$13.00-14.00
Retort, bbl.	$13.50-14.50	$13.50-14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	59-66	59-66

OIL STOCKS AND FINANCES

National Petroleum News

Larger Profits for This Year Shown by More Companies

CLEVELAND, Nov. 11

MOST of the oil companies that have reported their earnings for the first nine months of 1929 and the third quarter, show larger profits in nine months this year than last. The exceptions are the Tide Water Associated Oil Co. and its subsidiaries the Tide Water Oil Co. and Associated Oil Co., and the Beacon Oil Co. However, Tide Water Associated and Associated show larger earnings in the third quarter this year than a year before.

In spite of the improved showing, stocks of most oil companies have moved erratically on the exchanges in sympathy with the stocks of other corporations which rose far above their intrinsic values in the bull market of the last three years. Because of the overproduction depression within the oil industry, the oil shares did not become much inflated.

That earnings of some of the oil companies that do not make quarterly announcements, remain good, is evidenced by the extra dividends declared by several of them. President E. G. Seubert of the Standard Oil Co. of Indiana issued a statement in which he said the extra dividend was being paid from earnings.

Concerning the operations of the Barnsdall Corp. to Sept. 30, President E. B. Reeser said:

"Net production averaged 28,931 barrels a day for the nine months this year, compared with 26,015 barrels for the same period in 1928. Average price obtained this year was $1.41 a barrel, while in 1928 it was $1.34.

"Reserves of crude oil in the ground are greater than ever. Undeveloped acreage has been increased from 196,330 acres at the end of September, 1928, to 316,284 acres at the same date this year. Physical condition of the properties was never better. The refineries are being kept up to date, and the marketing division continues to expand. We have recently acquired controlling interest in one of the most substantial distributing companies in South Dakota, details of which will be given at a later date.

"Consumption of petroleum products continues at a rapidly increasing rate. For several years the federal government has urged the industry to conserve this great resource. Barnsdall has taken a very active part in the movement to balance production with consumption. At this time success seems assured. Leaders in the industry are cooperating to a remarkable extent in the effort to eliminate waste and unnecessary losses. This will result in a more stabilized and profitable operation.

"The corporation is free of funded debt. Reserves set aside for depletion, depreciation, etc., have been ample to cover all capital expenditures and improvements made. It has only one class of stock. It has net current assets of more than $8,000,000."

The Mid-Continent Petroleum Corp. issued this statement with its report:

"The third quarter profit was the largest in the history of the company, and profit for the nine months represented an increase of more than 50 per cent over earnings for the same period of 1928 and $800,000 over all of 1928.

"Using the same amounts of depreciation and depletion as in 1928, net earnings for the third quarter, after all charges, would equal approximately $1.75 a share, and for the nine months ended Sept. 30, 1929, approximately $3.25 a share on an outstanding issue of 1,857,912 shares of no-par capital stock.

"The company is in an exceptionally strong financial condition, with no bonds or preferred stock. As of Sept. 30, 1929, current assets were $25,716,269 and current liabilities only $2,647,060, a ratio of over 9½ to 1 and an excess of $23,069,209. Of the current assets, $12,247,790 is represented by cash and call loans. Net current assets are equal to over $12.40 per share on the capital stock outstanding.

"The company is continuing its policy of increasing its marketing facilities, and is now distributing a substantial part of its output through its own stations. All other departments of the business have shown a steady improvement which is reflected in the strong financial condition of the company."

President Edward T. Moore of Simms told stockholders:

"The improvement in earnings for the third quarter resulted largely from increased production, which averaged 17,042 barrels daily for the third quarter of this year, compared with 13,256 barrels daily in the previous quarter and 13,245 barrels daily for the corresponding period of the previous year.

"Net quick assets Sept. 30, 1929, totaled $5,188,691.98, compared with $4,823,890.33 at the end of the previous quarter and $5,076,883.89 at the beginning of the year.

"Your company is completing the installation of improvements at its refinery at Dallas, Texas, at a cost of approximately $300,000, which will increase the efficiency of the plant and will result in a larger percentage recovery of gasoline from the crude oil which is processed. Profits from refining operations should be affected favorably through the installation of this new equipment."

Oil Company Earnings

Nine Months	1929	1928
Amerada Corp.	$2,613,299	$1,635,471
Associated Oil	5,312,222	5,548,872
Barnsdall Corp.	5,721,706	2,401,461
Beacon Oil	†869,386	†1,086,874
Louisiana Oil Refining	†1,526,887	†1,137,133
Mid-Cont. Petroleum	††10,879,647	††7,241,119
Prairie Pipe Line	17,110,000	.....
Panhandle P. & R.	†129,874	*76,828
Richfield Oil	6,472,340	5,455,194
Rio Grande Oil	4,253,906	.....
Simms Petroleum	1,306,634	59,250
Skelly Oil	4,813,450	2,462,407
Texas Pacific C. & O.	‡1,572,457	‡1,272,939
Tide Water Associated	9,865,235	10,451,365
Tide Water Oil	5,344,468	7,117,302

Third Quarter	1929	1928
Amerada Corp.	$2,259,185	$ 577,563
Associated Oil	2,315,770	2,059,802
Barnsdall Corp.	1,606,453	1,398,134
Beacon Oil	†338,877	†945,407
Louisiana Oil Refining	†783,613	549,075
Mid-Cont. Petroleum	††4,892,248	††3,992,454
Prairie Pipe Line	6,135,000	.....
Panhandle P. & R.	†30,418	*12,671
Rio Grande Oil	1,231,544	.....
Simms Petroleum	888,887	269,093
Skelly Oil	1,614,514	2,006,063
Texas Pacific C. & O.	‡502,802	‡555,789
Tide Water-Associated	4,823,215	4,651,440

*Loss. †Before federal income taxes. ‡Before depreciation and depletion.

Refiners Buys 2 Ohio Companies

DAYTON, O., Nov. 11.—Refiners Oil Co. purchased the Twin City Oil Co., Danville, Ohio, on Oct. 25 and the Curtiss Oil Co., Sandusky, Ohio, on Nov. 1. Including these two companies, and a new bulk plant erected recently at Ashtabula, Ohio, Refiners now operates 69 bulk plants, W. E. Talbot, general manager announced. The Curtiss Oil Co. was organized in 1922 and operates a bulk plant and service station in Sandusky. Storage capacity is 100,000 gallons.

Anti-knock and high-test made from pure petroleum

FROM comments of Aromax users, and its constantly mounting volume of sales, Skelly jobbers have learned how public demand has turned to true anti-knock, high test gasoline that's all petroleum. Aromax performance is enjoying these results:

Probably no gasoline has ever enlisted so loyal a group of enthusiasts. A car owner who once uses Aromax is known thereafter to the pump attendant as an Aromax "fan." And some tell about their results with Aromax as enthusiastically as about their prowess with reel, gun, or brassie.

These users tell how AROMAX entirely eliminates knocks. They know no "dope" or poisonous, injurious ingredient is used in AROMAX. Speedy acceleration, quick starting, extra pulling power on hills are other things they talk about.

Wouldn't it please you to watch such results? For more information, write or wire

SKELLY OIL COMPANY

EL DORADO, KANSAS TULSA, OKLAHOMA
MINNEAPOLIS KANSAS CITY
OMAHA

AROMAX GASOLINE users return again and again and become "Aromax fans"

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Nov. 9 Sales	First	High	Low	Last	Change
43⅞	27¼	42⅝	17½	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Oct. 31, 29	9,600	25	25	21	22⅛	— 2⅞
85	51¼	64¾	15	(sh) 209,180	N.P.	American Republics Corp.	....	.....	8,400	24⅞	24⅞	15½	18⅛	— 7
53⅜	37½	47¼	40½	$56,000,000	$25	Associated Oil.	50cQ	Sept. 30, 29	.....	....	....	....	....	....
62½	50	77⅞	30	50,000,000	25	Atlantic Refining.	‡25cQ	Sept. 15, 29	124,000	46¼	47	38¾	42⅜	— 4½
53	20	49⅜	20	47,261,125	25	Barnsdall Corp. A	‡50cQ	Aug. 6, 29	96,000	27	27½	22½	25½	— 2
51⅜	20	49	38⅛	300,525	25	do B.	‡50cQ	Aug. 6, 29	.....	....	....	....	....	....
24½	12¼	32⅞	17	(sh) 956,075	N.P.	Beacon Oil.	....	.....	9,600	22	22⅜	17½	18	— 2⅞
36	25¼	34½	25	$51,524,150	$25	California Petroleum.	....	Jan. 1, 29	10	28	28	28	28	— 1⅜
....	....	37¾	22	(sh) 4,634,163	N.P.	Continental Oil (Delaware).	....	.....	109,800	27½	29⅝	†22	24⅞	— 2⅜
94⅞	68	94¾	47	21,031,400	100	General Asphalt.	....	.....	9,600	53½	54½	48⅜	49	— 5
141	110⅜	138	104½	6,628,200	100	do pfd.	$1.25Q	Sept. 3, 29	.....	....	....	....	....	....
167	79	109	23	25,000,000	100	Houston Oil.	....	.....	14,100	51¼	54½	35⅝	43	— 6¾
38⅜	21¾	39¼	17¾	(sh) 1,333,157	N.P.	Independent Oil & Gas.	50cQ	Oct. 31, 29	35,900	25¾	25⅞	22½	24½	— 3⅜
39⅝	9	53	13	$4,299,190	$10	Indian Refining.	....	Dec. 15, 20	65,200	25¾	25¾	15½	22	— 2½
37¼	8½	51¼	11½	4,550,110	10	do ctfs.	....	.....	40,400	23⅜	23⅞	15	21½	— 1¼
185	140	165	160	1,977,700	100	do pfd new.	$1.75Q	Oct. 1, 29	.....	....	....	....	....	....
39⅛	27⅜	38⅜	17⅛	3,992,387	N.P.	Lago Oil & Transport.	....	May 2, 27	8,900	25	25	†17⅛	20	— 4⅛
19¾	9⅜	18	7	(sh) 1,187,298	N.P.	Louisiana Oil Refining.	....	.....	22,000	9⅞	10	8⅝	8¾	— 1¼
96	78	100¼	88⅞	$4,000,000	$100	do pfd.	$1.62½	Aug. 15, 29	190	84¾	85	89¾	85	— 2¼
25½	12½	18½	10	(sh) 330,000	N.P.	Maracaibo Oil.	....	.....	1,700	10	10	†10	10	— 1¼
360	250	295	188	$45,942,800	$100	Mexican Petroleum.	$3Q	Oct. 20, 29	20	...	195	†188	188	—11
....	....	....	....	12,000,000	100	do pfd.	$2Q	Oct. 20, 29	.....	....	....	....	....	....
73	4⅝	69⅜	9¼	(sh) 995,500	N.P.	Mexican Seaboard.	....	Nov. 15, 24	50,600	18	18¼	13⅝	16	— 2
44½	25⅛	39⅞	23½	(sh) 1,857,461	N.P.	Mid-Continent.	50cQ	Aug. 15, 29	41,000	29½	30⅛	25⅛	27¼	— 2⅛
120½	103¼	121	120¼	$6,718,000	$100	do pfd.	$1.75Q	Sept. 1, 29	.....	....	....	....	....	....
7⅜	2⅜	5⅛	1	23,849,720	10	Middle States.	....	July 1, 23	5,600	1¾	1⅞	1⅝	1⅜	0
5⅞	1½	3⅜	⅞	5,950,500	10	do ctfs.	....	.....	33,300	1	1¼	⅞	1	— ⅜
2¼	1	1½	⅝	(sh) 3,500,000	N.P.	Pacific Oil.	....	.....	4,600	1	1	⅝	1	+ ⅛
55½	38¼	69	40¼	$50,000,000	$50	Pan American P & T.	....	Oct. 20, 27	16,100	62	62½	57	61	0
58⅞	37¾	69¼	40½	121,101,400	50	do B.	....	Oct. 20, 27	90,200	62	62¾	57⅜	61	— 1
28⅜	15½	17½	13½	(sh) 400,000	N.P.	Pan American Western B	....	Jan. 30, 27	.....	....	....	....	....	....
21¾	11½	15¼	3	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	5,100	6½	7	†3	5	— 1
106¼	70	76	47½	$2,935,200	$100	do pfd.	....	July 2, 23	300	53	53	52½	52½	— ½
53⅞	35¼	47	27	(sh) 2,406,803	N.P.	Phillips Petroleum.	37½cQ	Oct. 1, 29	48,100	34⅛	34⅞	28¼	30⅝	— 4¼
5¼	½	3⅜	1	$29,622,925	$25	Pierce Oil Corp.	....	.....	7,900	1½	1½	1	1¼	— ⅛
50	16¼	51½	20	15,000,000	100	do pfd.	....	Feb. 1, 22	2,500	34¾	34¾	25	27	+ 2
6⅝	3½	5⅞	½	(sh) 2,500,000	N.P.	Pierce Petroleum.	....	.....	8,200	3	3¼	2½	2¾	— ½
64⅝	59½	65⅝	40½	$60,636,450	$25	Prairie Oil & Gas.	‡50cQ	Sept. 30, 29	15,400	50⅛	50⅞	46⅛	48	— 2
....	....	65	45	101,250,000	25	Prairie Pipe Line.	‡75cQ	Sept. 30, 29	17,100	56½	58⅜	55	56	— 1⅞
29⅞	16	25⅞	4	37,450,850	50	Producers & Refiners.	....	Sept. 15, 23	5,400	8⅛	8⅛	6⅜	7¼	— ¼
49⅝	41	46¾	27	2,845,350	50	do pfd.	....	May 1, 25	140	30¼	33	30	30	0
31¼	19	30¾	20⅛	75,959,255	25	Pure Oil Co.	37½cQ	Sept. 1, 29	42,100	25⅛	25⅜	21⅞	23½	— 1⅛
119	108	116	108	13,000,000	.100	do 8% pfd.	$2Q	Oct. 1, 29	670	111	111	†108	108	— 3
56	23½	49⅝	20	47,127,725	25	Richfield Oil.	50cQ	Aug. 15, 29	28,200	30⅛	31	27½	30	+ 1
....	....	42½	15	(sh) 1,200,000	N.P.	Rio Grande Oil Co.	‡$1S.A.	July 25, 29	21,500	22⅛	23⅞	20½	21½	— 2¼
64	44⅜	64	43⅛	(sh) 546,646	$13.40	Royal Dutch N. Y. shares.	$1.873	Aug. 10, 29	49,800	53¾	54⅛	49¾	53½	— 1½
57½	39⅜	55⅜	43	(sh) 65,203,000	£2	Shell Transport & T.	$1.447	July 23, 29	.....	....	....	....	....	....
39¾	23¼	31¾	19	12,254,979	N.P.	Shell Union Oil.	35cQ	Sept. 30, 29	37,000	25	25	22	23⅝	— 1¼
27¼	18⅛	40⅛	18⅛	$8,357,280	$10	Simms Petroleum.	40cQ	Sept. 14, 29	13,300	24	24	20	22⅝	— 2⅜
46¾	17⅜	45	22½	5,494,095	N.P.	Sinclair Consolidated.	‡50cQ	Oct. 15, 29	163,200	29⅞	30	25	27⅛	— 1⅞
110	102½	111	103	$16,025,200	$100	do pfd.	$2Q	Aug. 15, 29	900	106	107	105	106	+ 1
42⅜	25	46¼	28	27,396,590	25	Skelly Oil Co.	50cQ	Sept. 16, 29	25,600	33⅝	34⅛	30	31½	— ¾
80	53	81⅞	51½	(sh) 13,016,435	N.P.	S. O. California.	62½cQ	Sept. 16, 29	58,200	67⅞	69	62⅛	65⅛	— 2⅝
59¾	37¾	83	48	$612,095,850	$25	S. O. New Jersey.	‡25cQ	Sept. 16, 29	272,400	65	69⅜	57¼	62	— 8¼
45½	28¾	48⅛	32	434,094,575	25	S. O. New York.	40cQ	Sept. 16, 29	92,600	39	39¼	33⅝	35⅛	— 3⅝
77	31½	84¾	57	(sh) 1,297,847	N.P.	Sun Oil.	25cQ	Sept. 16, 29	3,800	69⅞	70	64⅞	65	— 4⅞
110	100	105½	100	$5,000,000	$100	do pfd.	$1.50Q	Sept. 1, 29	250	102½	103	101¾	102½	— ½
14¼	2½	24	7½	(sh) 1,304,698	N.P.	Superior Oil Corp.	....	Dec. 20, 20	28,000	11	11⅛	†7½	8⅜	— 2¼
74⅝	50	71⅞	50½	$211,082,925	$25	The Texas Corp.	75cQ	Oct. 1, 29	82,400	58⅜	58⅜	52¼	53⅞	— 3⅝
26⅝	12⅛	23⅞	9¾	8,380,340	10	Texas Pacific Coal & Oil.	2½%	Sept. 30, 29	17,000	12⅝	12⅝	10⅛	11½	— ⅞
41½	19⅝	40	25⅛	(sh) 2,179,275	N.P.	Tide Water Oil Co.	20cQ	Sept. 30, 29	.....	....	....	....	....	....
100⅛	86¾	97½	88⅜	$20,321,000	$100	do 5½% pfd.	$1.25Q	Aug. 15, 29	1,000	89½	90	89	89	— ½
25	14¾	23½	12	(sh) 4,877,976	N.P.	Tide Water Associated.	....	Aug. 1, 27	22,500	14⅜	14½	12½	13	— 1⅜
91¾	81⅞	90⅞	80	$72,989,200	$100	do pfd.	$1.50Q	Oct. 1, 29	3,600	84⅛	84⅞	83	83	— 1
14½	6¾	15¼	5¼	(sh) 3,842,029	N.P.	Transcontinental Oil.	....	.....	132,900	8⅝	8¾	7	7⅝	— 1⅛
58	42¾	54½	43⅛	$40,858,375	$25	Union Oil of California.	50cQ	Aug. 10, 29	16,200	49½	49½	44½	47½	— ⅛
128⅛	110	163¾	121⅞	31,101,200	100	Union Tank Car Co.	$1.25Q	Sept. 3, 29	800	147¼	147¼	135	140	— 7
44⅞	26	42⅞	15	(sh) 488,359	N.P.	Warner Quinlan.	50cQ	Oct. 1, 29	11,200	24	24⅜	19⅞	21½	— 2
38	20⅛	38	25	(sh) 490,000	N.P.	White Eagle Oil & Refining.	50cQ	Oct. 21, 29	7,200	31½	31½	27⅛	28½	— 4½
22⅛	17¼	29¾	13½	(sh) 428,967	N.P.	Wilcox Oil & Gas.	....	May 10, 28	5,600	15⅛	16	14	15	0

*New High †New Low XEx-Dividends ‡Also Extras s-Stock Total Sales 2,044,880

Pittsburgh Stock Exchange

Transactions Week Ended Nov. 8, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas.	3,850	15¼	10¼	12	—3¼
do pfd.	1,595	8	7⅜	7⅜	— ⅜
Devonian Oil.	588	12	11	11	0
Dixie Gas & Util. pfd.	25	74	74	74	—6
Lone Star Gas.	18,374	42	34	36	—4½
Pet. Explor.	40	30½	30½	30½	0
Plymouth Oil.	4,075	28¼	25	28	0
Shamrock Oil & Gas	3,340	17	15	16½	+ ½

Pittsburgh Curb Market

Transactions Week Ended Nov. 8, 1929

	Sales	High	Low	Last	Change
Ark. Gas A.	200	13	11	11	....
Lone Star Gas pfd.	706	103⅞	100	100	....

CHICAGO, Nov. 12.—E. G. Youngberg has resigned as Chicago district sales manager of Transcontinental Oil Co., to be manager of the lubricating department of the George C. Peterson Co., Chicago. Mr. Youngberg was with the Wadhams Oil Co. at its Chicago and Tulsa offices for 10 years before going with Transcontinental.

Code Covers 80% of "Gas" Sold in Nebraska

(By Telegraph)

OMAHA, Nov. 8.—Representatives of major oil companies in Nebraska and officers of the Nebraska Independent Oil Men's Association in a meeting here Friday formally adopted the code of ethics effective Nov. 7. Eighty per cent of the gallonage of the state was represented. Commercial discounts were declared not in vogue in Nebraska, Charles M. Sutherland, secretary of the Nebraska association, reported.

Shell Distributor Erecting Terminal

RICHMOND, VA., Nov. 9.—The Dominion Oil Co., with headquarters here, is building a 2,000,000 gallon oil terminal here to distribute products of the Shell Eastern Petroleum Products Corp. The plant will cost about $125,000.

It will include four large and seven smaller storage tanks, three brick buildings, office, warehouse and garage, and will cover about three acres of ground. The terminal will begin operation the first of January.

Oil Dividends

	Amount	Payable	Stock of Record
Cumberland Pipe Line q	$1	Dec. 16	Nov. 30
Illinois Pipe Line s. a.	$10	Dec. 16	Nov. 18
Imperial Oil q.	12½c	Dec. 2	Nov. 15
Ohio Oil q.	50c	Dec. 14	Nov. 15
do extra	50c	Dec. 14	Nov. 15
Plymouth Oil	50c	Nov. 30	Nov. 15
Simms Petroleum q	40c	Dec. 14	Nov. 20
S. O. California q	62½c	Dec. 16	Nov. 16
do stock extra	2%	Dec. 16	Nov. 16
S. O. New Jersey q	25c	Dec. 16	Nov. 15
do extra	25c	Dec. 16	Nov. 15
S. O. Nebraska q	62½c	Dec. 20	Nov. 20
do extra	25c	Dec. 20	Nov. 20
S. O. New York q	40c	Dec. 16	Nov. 15
Swan-Finch pfd. q	43¾c	Dec. 1	Nov. 9
Texas Corp. q.	75c	Jan. 1	Dec. 6
Texas Pacific C. & O. q. stock	2½%	Dec. 31	Dec. 5
Union Tank Car q	$1.25	Dec. 2	Nov. 16
Vacuum Oil q.	$1	Dec. 20	Nov. 30
do extra	25c	Dec. 20	Nov. 30